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EXTENSIVENESS OF SYNTHESING INSTRUCTIONAL RESOURCES IN AID OF SPECIAL NEEDS STUDENTS IN SECONDARY SCHOOLS IN ANAMBRA STATE

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Abstract

Secondary education is a fulcrum of formal education in Nigeria. Cognizant of the fact that various group of learners are seen in the classroom, teachers are expected to integrate instructional resources that could ensure meaningful learning for all category of learners. This study thus investigated the extensiveness of synthesis instructional resources in aid of special needs students in secondary schools. Three research questions were raised for the study. Descriptive survey research design was employed for the study. The population of the study comprised all the 6145 secondary school teachers in the 266 public secondary schools in Anambra State. The sample for the study comprised 600 secondary school teachers drawn from the population of the study using simple random sampling technique. The instrument used for data collection was a self structured questionnaire titled 'Extensiveness of synthesis Instructional Resources for Special Needs Students (EIIRSNS). The questionnaires were validated by three experts in Faculty of Education in Nnamdi Azikiwe University, Awka. The questionnaires were trial-tested using 20 secondary school teachers in public secondary schools in Enugu State which was subjected to internal consistency reliability technique using Cronbach Alpha statistics. This yielded a mean reliability coefficient of 0.82. Mean and standard deviation were used in answering the research questions. The findings of the study revealed that instructional resources in all the investigated indicators (assistive technologies, adapted learning materials, physical resources and modifications, specialized instructional strategies, social and emotional support resources and extracurricular and vocational resources) are integrated in a low extent in aid of special needs students in secondary schools. Based on the findings of the study, it was recommended among others that there is need for the government to allocate enough resources for the procurement and maintenance of assistive technologies (e.g., screen readers, hearing aids, speech-to-text tools) to support special needs students as well as ensuring equitable access to the learning process. Investing in these technologies will empower students with disabilities to fully participate in academic activities and overcome learning barriers caused by physical or cognitive impairments in secondary schools.

Keywords: Instructional Resources, Special Needs Students, Secondary Schools

Introduction

In contemporary Nigeria, education serves as a crucial foundation for sustainable development, peace, and stability, making it an essential tool for socio-economic participation and global integration. It is widely recognized as the backbone of national progress, driving economic, social, political, industrial, and technological advancements. Reflecting this importance, the National Policy on Education (FRN 2013) highlights education as a vital instrument for national development. To promote inclusivity, the Nigerian government has implemented strategies aimed at integrating all members of society, including students with special needs, into the education system (Tersoo, 2015). This study focuses on the extensiveness to which instructional resources are synthesize to aid special needs students in secondary schools in Anambra State.

Special needs students encompass individuals requiring differentiated materials and environments to enhance their engagement due to challenges such as blindness, deafness, social maladjustment, or giftedness (FRN, 2013). Despite their unique challenges, special needs students are capable of becoming self-reliant when provided with education that maximizes their abilities (Ikwuka, Obumneke-Okeke, Okoye, & Adigwe, 2020). Inclusive education has emerged as a viable strategy to promote equality in learning by enabling students with and without disabilities to learn together in adaptable educational settings (Olalekan-Maxwell, 2023). This approach not only enhances academic and social outcomes for special needs students but also ensures their participation in economic and societal growth (Nwana & Ugwuda, 2023).

Effective inclusive education demands modifications to conventional teaching practices to address diverse learning needs (Hlatywayo & Mapolisa, 2020). Many special needs students face learning difficulties such as attention deficits, movement impairments, and challenges in processing visual and auditory information. Additionally, cognitive, communication, reading, and writing challenges further hinder their learning progress. Recognizing these issues, international declarations and Nigerian policies, such as the 2019 Discrimination against Persons with Disabilities (Prohibition) Act, mandate reasonable accommodations for students with disabilities (Olalekan-Maxwell, 2023). Despite these mandates, the current availability of instructional resources for special needs students in Nigerian schools remains inadequate, particularly in secondary schools in Anambra State. This hinders many special need students in the classroom.

To bridge this gap, instructional resources need to be synthesized in the teaching and learning activities to cater for the diverse needs of special needs students. These resources include assistive technologies, adapted learning materials, physical modifications, specialized instructional strategies, and social and emotional support, amenities. Assistive technologies such as braille printers, screen readers, and speech-to-text software empower students with disabilities to overcome academic challenges (Siron & Mulyono, 2017). Adapted learning materials, including braille textbooks, tactile diagrams, and captioned videos, ensure equitable curriculum access (Sugito, 2018). Physical modifications like ramps, adjustable desks, and sensory rooms provide an inclusive environment, while specialized instructional strategies such as differentiated instruction and Individualized Education Plans (IEPs) address specific learning needs (Yada & Savolainen, 2017). Additionally, social and emotional support resources, including school counsellors and social skills training, foster resilience and positive interactions among special needs students (Ezeh, 2017).

In Nigeria, inclusive education policies have been highlighted in the National Policy on Education emphasizing the integration of special needs students into mainstream schools. The government has expressed its commitment to providing facilities and resources necessary for inclusive education (FRN, 2013). However, the implementation of these policies often falls short, as many special needs students in Anambra State face exclusion and limited access to quality education (Iroeze, Umunnakwe & Eze, 2017). This underscores the need for effective integration of instructional resources to support their learning and ensure their holistic development. Driven by the global Education for All (EFA) movement and the desire to provide equitable learning opportunities, this study seeks to examine the extensiveness of the syntheses of instructional resources for special needs students in secondary schools in Anambra State. By exploring this critical area, the study aims to highlight gaps, suggest improvements, and contribute to the realization of inclusive education for all students, regardless of their physical or cognitive challenges. This is because many students in the secondary school struggle to meet up with the physical and environment challenge in the classroom due to the depth of resources required to enroll their learning difficulty.

However, despite the growing emphasis on inclusive education, many secondary school teachers face significant challenges in effectively synthesing instructional resources to meet the

diverse learning needs of special needs students. The United Nations Treaty year mandates that all students with special needs have the right to education. As a signatory to this treaty, Nigeria is obligated to uphold these rights. In response, Nigeria enacted a law in 2018 that mandates the inclusion of all students with special needs in the general school system, ensuring they have access to all necessary learning facilities, such as assistive technologies, adapted learning techniques, physical resources and modifications, specialized instructional strategies, social and emotional support resources and extracurricular and vocational resources. Furthermore, in 2018, Anambra State domesticated this law, signifying commitment to its implementation. Nevertheless, the full implementation of this law remains a challenge, leading to significant academic hurdles for students with special needs,

The researchers are highly concerned given their interactions with some teachers over their struggle expensed in teaching special needs students in the State. One of the researchers been a special need student and a stakeholder in the academic sector in the State, the researchers are enthused about ascertaining the extensiveness of synthesing of the needed instructional resources in the interest of special needs students. The researchers are convince that a study of this nature will reveal the necessary indices surrounding the implementation of inclusive education in Anambra State and by extension in Nigeria at large.

Research Questions

The following research questions were posed to guild the study.

1. what is the extent of integration of assistive technologies in aid of special needs students in secondary schools in Anambra State?
2. what is the extent of integration of adapted learning materials in aid of special needs students in secondary schools in Anambra State?
3. what is the extent of integration of physical resources and modifications in aid of special needs students in secondary schools in Anambra State?

Method

The study adopted a descriptive survey research design. It was conducted in Anambra State, Nigeria, with the choice of the location informed by the researcher's familiarity with the area and its relevance to the study focus. The population comprised 6,145 secondary school teachers from 266 public secondary schools in Anambra State. A sample of 600 secondary school teachers was selected using simple random sampling techniques. Three educational zones (Awka, Ogidi,

and Onitsha) were randomly chosen, from which 30 schools (10 per zone) were selected. From each school, 20 teachers were randomly sampled. A structured questionnaire titled "Extent of Integration of Instructional Resources for Special Needs Students (EIIRSNS)" was used to collect data. The questionnaire had two sections: Section A gathered demographic data of respondents, while Section B, divided into three clusters, addressed the research questions using a four-point scale: Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE). The instrument comprised 60 items. The instrument was validated by three experts in the Faculty of Education at Nnamdi Azikiwe University, Awka. Two were from the Curriculum Studied unit, and one from the Measurement and Evaluation unit. Suggestions from these experts informed the final version of the instrument. Reliability was established through a pilot test involving 20 secondary school teachers in Enugu State. Cronbach alpha was used to determine internal consistency, yielding a reliability coefficient of 0.82, deemed adequate for the study. Data collection employed the direct-delivery method with assistance from five research assistants. They were trained on the research objectives and data collection procedures. Questionnaires were distributed and retrieved within two weeks to ensure a high response rate. Data analysis involved the use of mean and standard deviation to answer the research questions, with a cut-off point of 2.50. Scores below 2.50 indicated a low extent, while scores of 2.50 and above indicated a high extent.

Result:

Research Question One: What is the Extent of Integration of Assistive Technologies in Aid of Special Needs Students in Secondary Schools in Anambra State?

Table 1: Mean Rating of Respondents on Extent of Integration of Assistive Technologies in Aid of Special Needs Students in Secondary Schools (N=600)

S/N	Items:	$\overline{X}$	SD	Remark
1.	Braille Printers (Embossers)	2.21	1.12	LE
2.	Screen Readers	2.26	1.21	LE
3.	Magnification Software	2.33	1.10	LE
4.	Portable Magnifiers,	2.27	1.04	LE
5.	Braille Notetakers	2.24	1.02	LE
6.	Tactile Graphics Software,	2.34	1.23	LE
7.	Talking Calculators	2.65	1.06	HE
8.	Audio Books And Players	2.59	1.13	HE
9.	Hearing Aids	2.43	1.04	LE
10.	FM Systems	2.67	1.35	HE
11.	Video Relay Services (VRS),	2.62	0.97	HE
12.	Speech-To-Text Software	2.49	1.12	LE

13.	Captioning Software	2.25	1.12	LE
14.	Adaptive Keyboards	2.36	1.08	LE
15.	Head-Tracking Devices	2.46	1.12	LE
16.	Sip-And-Puff Systems	2.20	1.12	LE
17.	Alternative Mouse Devices	2.50	1.23	HE
18.	Text-To-Speech Software	2.34	1.17	LE
19.	Word Prediction Software	2.38	1.14	LE
20.	Graphic Organizers	2.32	1.10	LE
	Grand Mean	**2.39**	**1.12**	**LE**

Data in Table 1 Showed that most assistive technologies, except talking calculators, audiobooks, FM systems, video relay systems, and alternative mouse devices, are integrated to a low extent in aiding special needs students in Anambra State secondary schools. This is evidenced by mean scores below the cut-off of 2.50 for most items and a grand mean of 2.39. Standard deviation values ranged from 0.97 to 1.35, reflecting consensus among respondents.

Research Question Two: What is the Extent of Integration of Adapted Learning Materials in Aid of Special Needs Students in Secondary Schools in Anambra State?

Table 2: Mean Rating of Respondents on Extent of Integration of Adapted Learning Materials in Aid of Special Needs Students in Secondary Schools (N=600)

S/N	Items:	$\overline{X}$	SD	Remark
1.	Braille Textbooks	2.42	0.97	LE
2.	Large Print Books	2.28	1.12	LE
3.	Tactile Diagrams	2.24	1.12	LE
4.	Tactile Flashcards	2.40	1.08	LE
5.	Audio Books	2.30	1.12	LE
6.	Sign Language Dictionaries	2.20	1.12	LE
7.	Captioned Videos	2.51	1.23	HE
8.	Visual Timetables	2.35	0.97	LE
9.	Picture-Based Instructional Guides	2.50	1.14	HE
10.	Sign Language Learning Apps	2.22	1.10	LE
11.	Adapted Workbooks	2.22	1.20	LE
12.	Voice-Controlled Software	2.24	1.15	LE
13.	Switch-Activated Learning Tools	2.29	1.12	LE
14.	Hands-On Manipulatives	2.33	1.18	LE
15.	Adapted Art Supplies	2.32	1.13	LE
16.	Simplified Textbooks	2.51	1.11	HE
17.	Interactive Whiteboards	2.30	1.17	LE
18.	Audio-Assisted Reading Tools	2.29	1.05	LE
19.	Graphic Organizers	2.33	1.04	LE

20.	Multisensory Learning Kits	2.19	1.12	LE
	Grand Mean	**2.31**	**1.11**	**LE**

Results in Table 2 show that adapted learning materials, except captioned videos, picture-based instructional guides, and simplified textbooks, are integrated to a low extent in aiding special needs students in secondary schools in Anambra State. Most items had mean scores below the cut-off of 2.50, with a grand mean of 2.31. Standard deviation values ranged from 0.97 to 1.35, reflecting homogeneity and consensus among respondents.

Research Question Three: What is the Extent of Integration of Physical Resources and Modifications in aid of Special Needs Students in Secondary Schools in Anambra State?

Table 3: Mean Rating of Respondents on Extent of Integration of Physical Resources and Modifications in aid of Special Needs Students in Secondary Schools (N=600)

S/N	Items:	$\overline{X}$	SD	Remark
1.	Ramps	2.21	1.12	LE
2.	Wheelchair-Accessible Restrooms	2.26	1.21	LE
3.	Elevators	2.33	1.10	LE
4.	Adjustable Desks	2.27	1.04	LE
5.	Accessible Lockers	2.24	1.02	LE
6.	Handrails	2.34	1.23	LE
7.	Braille Signage	2.35	1.06	LE
8.	Tactile Pathways	2.29	1.13	LE
9.	Bright And High-Contrast Markings	2.43	1.04	LE
10.	Screen Magnifiers	2.17	1.35	LE
11.	Acoustic Modifications	2.22	0.97	LE
12.	Visual Alarm Systems	2.29	1.12	LE
13.	FM Systems	2.55	1.12	HE
14.	Sign Language Interpreters	2.36	1.08	LE
15.	Sensory Rooms	2.46	1.12	LE
16.	Flexible Classroom Seating	2.20	1.12	LE
17.	Visual Timetables	2.20	1.23	LE
18.	Sensory Items	2.34	1.17	LE
19.	Wider Doorways	2.38	1.14	LE
20.	Parking Spaces For Disabled Students	2.32	1.10	LE

Grand Mean	**2.31**	**1.12**	**LE**

Data in Table 3 indicate that most items, except FM Systems, have mean scores below 2.50, indicating that physical resources and modifications for special needs students in secondary schools in Anambra State are integrated to a low extent. These include ramps, wheelchair-accessible restrooms, elevators, adjustable desks, and other accommodations. The grand mean of 2.31, below the cut-off of 2.50, further supports this. Standard deviation scores ranged from 0.97 to 1.35, showing a similar consensus among respondents.

Discussion of findings

The findings of the study revealed that assistive technologies are integrated to a low extent in aid of special needs students in secondary schools in Anambra State. The finding of the study agrees with Hlatywayo and Mapolisa (2020) who in their study found out that the implementation of inclusive education in teachers' colleges is affected by lack of financial support from the Ministry and Government of Anambra State to support the acquisition of relevant resources and assistive devices. This is given that students with special needs faced financial challenges when they fail to pay for their own tuition and materials required.

The findings of the study revealed that adapted learning materials are integrated to a low extent in aid of special needs students in secondary schools in Anambra State. The findings of the study agrees with Nugraheni-Dwi-Budiarti (2018) who in a study established that policies in promoting inclusive education can be seen from the procedures of student admissions that are flexible and non-discriminatory, and the efforts of the school to conduct accessibility of facilities and infrastructure for the children with special needs, regular teacher-special assistant teachers collaboration, as well as the flexibility of curriculum implementation for children with special needs.

The study revealed that physical resources and modifications are poorly integrated in supporting special needs students in secondary schools in Anambra State. This is consistent with Sunardi, Gunarhadi, and Yeagerb (2011), who highlighted challenges in providing essential equipment and limited exam modifications in inclusive schools. Similarly, Eunice, Nyangia, and Orodho (2015) noted inadequate resources, a lack of specialized teachers, and socio-economic constraints. Mpu and Adu (2021) identified issues like overcrowding, insufficient training, and

limited educator knowledge, while Hlatywayo and Mapolisa (2020) pointed to financial, material, and human resource shortages as significant barriers.

Conclusion

Secondary education is a fulcrum of formal education in Nigeria. Cognizant of the fact that various group of learners grace the classroom, teachers are expected to integrate instructional resources that could ensure meaningful learning for all category of learners. This study thus investigated the extent of integration of instructional resources in aid of special needs students in secondary schools. Based on the findings of the study, it was concluded that instructional resources in all the investigated indicators (assistive technologies, adapted learning materials, physical resources and modifications, specialized instructional strategies, social and emotional support resources and extracurricular and vocational resources) are integrated to low extent in aid of special needs students in secondary schools

Recommendations

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

1. There is need for the Anambra State government to allocate dedicated funding for the procurement and maintenance of assistive technologies (e.g., screen readers, hearing aids, speech-to-text tools) to support special needs students, ensuring equitable access to the learning process. Investing in these technologies will empower students with special needs to overcome learning barriers caused by physical or cognitive impairments in secondary schools.
2. School administrators in collaboration with Anambra State government should modify school facilities to improve physical accessibility by installing ramps, elevators, wider doorways, and accessible restrooms, and by ensuring classrooms and learning spaces are adapted for mobility-challenged students. They should collaborate with experts to develop and supply adapted learning materials such as large-print books, Braille texts, audio resources, and simplified reading materials for students with special needs.
3. Anambra State Government should train teachers in specialized instructional strategies such as differentiated instruction, multi-sensory learning approaches, and individualized learning plans to meet the diverse needs of special needs students. This will help them provide effective, personalized instruction that caters to the learning preferences and abilities of students with special needs.

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