
TEACHERS' AWARENESS AND USE OF EFFECTIVE STRATEGIES FOR TEACHING PUPILS WITH AUTISM SPECTRUM DISORDER IN PUBLIC PRIMARY SCHOOLS IN ANAMBRA STATE

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Abstract

The study investigated the teachers' awareness and use of effective strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. Three research questions guided the study and three null hypotheses were tested at 0.05 level of significance. Descriptive survey research design was adopted for the study. The population of the study comprised 7,151 teachers in the 752 public primary schools in Anambra State. The sample for this study is 865 teachers drawn using multistage sampling procedure. A researcher developed questionnaires titled "Teachers' Awareness of Autism Spectrum Disorder Test (TAASDT)" and Effective Strategies for Teaching Pupils with Autism Spectrum Disorder Questionnaire (ESTPASDQ)" were used for data collection. The instruments were validated by three experts, two from the Department of Early Childhood and Primary Education, and one from the Department of Educational Foundations (Measurement and Evaluation), Nnamdi Azikiwe University. Cronbach alpha was used for a test of internal consistency of the instrument and it yielded overall reliability co-efficients of 0.79 for TAASDT and 0.79 for ESTPASDQ. Mean and standard deviation were used to answer the research questions and t-test to test null hypotheses. The findings of the study revealed that teachers demonstrate low awareness of pupils with autism spectrum disorder in public primary schools in Anambra State among others. It was also found out that differentiated and peer tutoring strategies are not effectively used by teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. Based on the findings, it was recommended that Anambra State Universal Basic Education Board should embark on public enlightenment campaign to create awareness of existence of pupils with ASDs in primary schools in the state among others.

Key Words: Teachers, Awareness, Use, Effective, Strategies, Teaching, Pupils, Autism, Spectrum Disorder

Introduction

Education is widely acknowledged as instrument for equipping individuals with appropriate skills and sound knowledge to contribute positively to the development of society. It brings modification and positive change in the behaviour of its recipients to become meaningful to themselves and society at large. Fakunle, Togunloju and Adedapo (2023) opined that education is a powerful instrument forequipping individuals with relevant knowledge, skills, and values to ensure proper intellectual and character development for self-reliance and responsiblecitizenship. One of the educational institutions in which teaching and learning activities take place is primary school.

Primary school is educational institution that equips pupils with fundamental skills and knowledge that prepares them for secondary education. According to Osiesi (2023), primary school is the foremost learning institution which aimed at improving and promoting life-long learning skills, literacy, and numeracy abilities of pupils. The primary school is the first formal learning institution for delivery of basic education to school children. Okechukwu and Oboshi (2021) posited that the primary school education is not only designed to provide permanent literacy and numeracy and the ability to think objectively but also deposit in pupils sound basis for scientific and reflective thinking and the ability to adapt to changing environment. Contextually, primary school is the first formal learning institution that exposes pupils to fundamental literacy, numeracy skills and knowledge. One of the staff personnel that occupy a very strategic place in primary school is the teacher.

Teacher is the person who is the initiator and facilitator of teaching and learning activities to implement school curriculum in the classroom. The attributes of professional teacher include empathy, respect, integrity, discipline and dedication to work among others. Anyango and Okello (2023) noted that a professional teacher must demonstrate sound attitudes such as neatness, intelligence and desirable traits. A teacher is a trained person whose job is to impart knowledge, skills and inculcate desirable behaviour in learners. Aladetan (2023) defined teacher as the implementer of the curriculum to impart the requisite knowledge, skill and attitude in the pupils. The author added that it is the responsibilities of teachers to include preparation for classes by writing suitable lesson notes with supportive instructional materials, delivering effectively in the classroom, managing pupils in the classroom, marking pupils' assignments, keeping pupils' records, participating and helping pupils participate in co-curricular and extra-curricular activities. Teachers are required to pay special attentions and care to pupils with disabilities especially those with Autism Spectrum Disorder ASD.

Autism Spectrum Disorder (ASD) is diagnosed in children across the globe. Ibiam (2019) defined Autism Spectrum Disorder (ASD) as a human developmental condition which manifests in social interactive dysfunctions; imaginative or cognitively related malfunctions; and poor social communication difficulties. Furthermore, the author stressed that people with autism have impairments in social communication and imagination. Autism spectrum disorder is developmental syndrome that contributes to behavioural, social, and speech impairment in individuals. Osenweugwor and Okunola (2022) defined ASD as a range of conditions characterized by some degree of impaired social behaviour, communication and language and a narrow range of interests and activities that are both unique to the individual and carried out repeatedly. Autism Spectrum Disorder (ASD) is a brain-based syndrome that adversely affects the communication and social activities of an individual. According to Ghedeir (2022), ASD is

complex development disability resulting from neurological conditions which negatively affects brain function. Furthermore, Ghedeir posited that all learners with ASD experience difficulties with understanding and using non-verbal communication, repetitive and distinctive speech patterns and echolalic speech. In the context of this study, autism spectrum disorder is a developmental syndrome that results in persistent social, communication and behavioural problems.

Pupils with autism spectrum disorder might find it difficult in making friends due to glitches in social communication and social interaction. Twi-Yeboah, Cadri, Nagumsi, Danso, and Mohammed-Sani, (2021) opined that the most common and easiest ways to identify autistic children are the presence of some traits such as difficulty in understanding simple issues and instructions, unresolved influences, poor social interactions and connection, social confinement, and adjustment issues. Pupils with autism spectrum disorder prefer to study alone, rarely express their interests and share emotions with others. Hortal-Quesada and Sanchis-Sanchis (2022) opined that learners with ASD often show difficulties when planning tasks, tending to self-isolate in environments that require high cognitive flexibility and extensive socialization, such as those found in mainstream classrooms. Teachers may overcome difficulties in teaching pupils with ASD, if they are aware of the nature of the challenges.

Awareness is the understanding and knowledge of individuals of things around them. Ohia and Fadele (2020) defined awareness as something that keeps reminding one about something, without one actually trying actively to search that information. It is the level of familiarity of a given event, situation, object or any other thing. The level of teachers' awareness of pupils with ASD could improve their attitudes towards them. Ogunjimi, Oshomoji and Otuyemi (2014) defined awareness as having or showing knowledge and understanding about something at a given time. Operationally, awareness is the knowledge, feeling and the conscious of emotional, speech defects and other impairment of some pupils in the classroom. Awareness of the existence of pupils with ASD could lead to manipulation and application of effective strategies for teaching them.

Effective teaching strategies are the use of right instructional techniques and materials to enable pupils learn what is expected of them. Obaid and Mohammad (2023) defined effective teaching strategies as appropriate instructional methods that ensure optimal lesson presentation to learners with learning disabilities. Continuing, Obaid and Mohammad stressed that the notion of teachers' use of strategies for teaching children is to enhance the learning abilities of their learners, especially those with learning disabilities. Effective teaching strategies are approaches that address and respond to the diverse needs of all learners in the classroom. Pupils with autism spectrum disorders have unique learning needs that could be satisfied using effective teaching strategies. According to Ekhovbiye and Agholor (2020), effective teaching strategies are suitable instructional approaches a teacher may use to achieve learning objective in the course of lesson presentation. Contextually, effective teaching strategies are instructional approaches that take into consideration the interest, abilities and other special needs of pupils in lesson presentation to promote their activity participation and understanding of concept taught in the classroom.

Pupils with autism spectrum disorder (ASD) are being included within mainstream classroom. Thwala (2018) noted that with more learners with ASD in mainstream classrooms, teachers are expected to be well equipped with effective strategies of teaching children with ASD in the mainstream class. Several scholars have highlighted effective strategies for teaching pupils with autism spectrum disorder. Ressa (2022) highlighted the use of differentiated (direct)

instruction, technology and multimedia as strategy for teaching pupils with ASD. Mange, Otieno and Mjomba (2018), listed effective strategies for teaching learners with ASD as follow: visual cues, differential instructional, reinforcement, use of age appropriate materials, peer tutoring and use of key social rules. Padmadewi and Artini (2017) identified strategies for teaching learners with ASD to include: co-teaching, differentiated instruction, and peer-mediated instruction. The focus of this study is on differentiated instructional, peer tutoring instructional and multimedia instructional strategies.

Differentiated instructional strategy is a teaching approach that is based on the unique needs of each learner in the same classroom. Padmadewi and Artini (2017) noted that differential instructional strategy entails modifying the content, the process of learning, and the end product of teaching activities. Differentiated instruction allows teachers to take diverse abilities of pupils into account, when planning and presenting lesson. This give pupils multiple learning options in the classroom. Muthomi and Mbugua (2014) noted that differentiated instruction is an approach that assumes there is a diversity of learners in every classroom and that all learners can be reached, if a variety of methods and activities are used. Furthermore, the authors stressed that differentiated instruction is a way of diagnosing the needs of pupils and making accommodations in the classroom to meet their needs. Teachers who use differential instruction in teaching pupils with ASD my design lessons based on their learning styles, interest and continually assess and adjust lesson content to meet pupils' needs. Pupils with ASD exposed to differentiated instructions could further be paired with peers for tutoring.

Peer-tutoring is a teaching strategy in which pupils are used as tutors in the classroom, while the teacher coordinates the instructional activities. The role of the teacher in peer tutoring changes from being the primary provider of instruction to that of a facilitator of peer provided instruction (Padmadewi&Artini, 2017). Peer-tutoring is a strategy of instruction in which pupils are grouped to help each other learn by working together and learning from each other. In class-wide peer tutoring, the entire class is divided into diverse groups of two to five learners based on their capability (Kalu-Uche and Ogbonna, 2021). Peer tutoring provides opportunity for pupils to speak and listen to each others in the instructional process. The male and female pupils who serve as tutors in peer tutoring are sometimes trained and supervised by the teacher.

Gender is differences in the social and cultural roles of men and women which could influence the ways they teach pupils with ASD. Ekom-Idorenyin (2020) posited that female teachers are preferable to their male counterparts with regards to teaching and handling pupils with ASD. On the contrary, Osenweugwor and Okunola (2022) noted that the male teachers have positive awareness and attitude towards the inclusion of learners with ASD in general education classrooms than the female teachers. Although, these controversial findings might be probably due to the fact that the studies were carried out in different geographical locations and also utilized different participants. The need arise for new studies to take gender into consideration in an attempt to build a new evidence of awareness and application of effective strategies for teaching pupils with ASD. .

Some pupils tend to have speech defect and difficult in associating with peers in public primary schools in Anambra State. To buttress this, Ekom-Idorenyin (2020) noted that there exists as deficit in the social and communication skills and hypersensitivity among pupils which makes them withdraw from social interactions required for learning to take place in primary schools in Nigeria. The authors added that most teachers are not educationally equipped to attend

to the challenges of teaching children with disabilities, including those with ASD in public primary schools in Nigeria. Ibiam (2019), observed that some educators have mixed feelings about inclusion of children with ASD in the regular classroom and as such show either negative or positive attitudes towards teaching them.

Some pupils with ASD tend to be lonely, socially excluded, bullied by peers and regard as slow learners in public primary schools in Anambra State. Paul and Gabriel-Brisibe (2015) asserted that autistic children in a typical primary school in Nigeria face a scaring challenge early on in life as they are labeled with derogatory names by teachers and their peers. Some of them tend to be labeled slow learners and get punished by their teachers for slowness in understanding instructions in the classroom. Paul and Gabriel-Brisibe (2015) noted it is difficult to give specialized attention to those who have impaired communication, social interaction and imaginative functions with no obvious physical disability as is the case in autism spectrum disorder in primary schools. It is against this background that this study was carried out to determine teachers' awareness and use of effective strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Statement of the Problem

Some public primary school pupils in Anambra State seem to have difficulty in interacting with peers, intellectual disability and also extreme speech delays which are associated with ASD. Some pupils tend to often fail to develop relationship, reciprocate social and emotional supports receive from peers. They tend to have a hard time understanding the feelings and expectations of others. The ability of the teachers to identify pupils with ASD is paramount in choosing what effective teaching strategies that could yield the desired outcome for an autistic children. However, some teachers might not fully be aware that some pupils have ASD which may account for absence of special interventions or effective teaching strategies to assist them to effectively learn in the classroom. It is worrisome that some pupils with ASD tend to experience a high degree of stigma from peers and teachers in primary schools in Anambra State.

The misconceptions of associating pupils with ASD as slow and dull learners might hinder the likelihood of them excelling in their studies. Some teachers who probably have inadequate understanding of the behaviour or misconceptions about the conditions of pupils with ASD tend to apply teaching strategies that mismatch their abilities, skills and needs, which can have adverse impact on their academic outcomes or performance in public primary schools in Anambra State. It is based on this problem that the researcher sought to determine teachers' awareness and use of effective strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Purpose of the Study

The purpose of the study is to determine teachers' awareness and use of effective strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. Specifically, the study sought to ascertain:

1. Male and female teachers' awareness of pupils with autism spectrum disorder in public primary schools in Anambra State.

2. Male and female teachers' use of differentiated instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.
3. Male and female teachers' use of peer tutoring instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Research Questions

The following research questions guided the study:

1. What are the levels of male and female teachers' awareness of pupils with autism spectrum disorder in public primary schools in Anambra State?
2. What are the differentiated instructional strategies used by male and female teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State?
3. What are peer tutoring instructional strategies used by male and female teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State?

Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the mean ratings of male and female teachers on their level of awareness of pupils with autism spectrum disorder in public primary schools in Anambra State.
2. There is no significant difference in the mean ratings of male and female teachers on their use of differentiated instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.
3. There is no significant difference in the mean ratings of male and female teachers on their use of peer tutoring instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Method

This study adopted a descriptive survey research design. The study was carried out in Anambra State. The choice of Anambra state as the area of the study is due to the fact that there exists pupils with ASD that tend to hardly receive special attentions in public primary schools in the state. The population of the study comprised 7,151 primary school teachers in the 752 public primary schools in Anambra State. The sample for this study were 865 primary school teachers drawn using multistage sampling procedure.

A researcher-developed two sets of instruments titled "Teachers' Awareness of Autism Spectrum Disorder Test (TAASDT)" and Effective Strategies for Teaching Pupils with Autism Spectrum Disorder Questionnaire (ESTPASDQ)" were used for data collection. The instruments were developed by the researcher from literature review and consultation with experts in the field. TAASDT has two sections namely A and B. Section A of the instrument was designed to collect information on the biographic data of respondents such as gender. Section B contains 30 multiple choice objectives test items on knowledge and awareness of autism spectrum disorder. ESTPASDQ has two sections namely A and B. Section A of the instrument is designed to collect information on the biographic data of respondents such as gender. Section B is divided into Clusters I and II. Cluster 1 has seven items on differentiated instructional strategies and cluster II

has 10 items on peer tutoring instructional strategies. The instrument therefore contains a total of 17 items all of which are structured on a four point rating scale of Strongly Agree (SA), Agree (A), Disagree (D); Strongly Disagree (SD) weighted 4, 3, 2 and 1 respectively.

Face validation of the instruments were established using the opinions of three experts. Two experts from the Department of Early Childhood and Primary Education and an expert in Measurement and Evaluation Unit in the Department of Educational Foundations all from the Faculty of Education, Nnamdi Azikiwe University, Awka. Draft copies of the questionnaire together with the research title, purpose of the study, research questions and hypotheses were given to the three experts. They suggested that the instruments should be consistency in response options and typographical errors should be corrected. Their suggestions and inputs were reflected on the final draft of the instruments. The data used for computing the reliability of TAASDT and ESTPASDQ were obtained through test-retest method and Cronbach alpha irrespectively. The reliability coefficient of 0.79 was obtained for TKAASDT. The co-efficient for clusters I and II of ESTPASDQ were 0.81 and 0.77 respectively and overall coefficient was 0.79.

The researcher together with four research assistants who are primary school teachers in the area of study administered copies of the questionnaire directly to the respondents. A total of 864 copies of the questionnaire were distributed and 848 were properly filled and successfully retrieved indicating 98% return rate. At the end of the exercise, successfully completed and retrieved copies of the instruments were used for data analysis. Mean and standard deviation were used to answer research questions and t-test to test the hypotheses. The decision for the research question is that any item with a mean rating from 2.50 and above was taken as agreement, while any with mean rating below 2.50 was taken to indicate disagreement. In taking decisions on the null hypotheses, if p-value was equal to or greater than significant value of 0.05, the null hypothesis was accepted and the difference was taken to be no statistically significant, but if otherwise, the null hypothesis was rejected and the difference was taken to be statistically not significant.

Results

Research Question One: What is the level of male and female teachers' awareness of pupils with autism spectrum disorder in public primary schools in Anambra State?

Table 1: Mean and Standard Deviation Scores of Teachers' Awareness of Pupils with Autism Spectrum Disorder

Gender	N	Mean	Standard Deviation	Decision
Male Teachers	89	7.31	5.07	Low Awareness
Female Teachers	759	9.39	4.67	

The result of data analysis presented on Table 1 shows that the mean awareness scores of pupils with autism spectrum disorder are 7.31 and 9.39 with standard deviation scores of 5.07 and 4.67 for male and female teachers respectively. The mean scores indicated that female teachers are more aware of pupils with autism spectrum disorder than their male counterparts. The low mean awareness scores of 7.31 and 9.39 indicate that there is low level of teachers' awareness of pupils with autism spectrum disorder in public primary schools in Anambra State.

Hypothesis One: There is no significant difference in mean ratings of male and female teachers on their level of awareness of pupils with autism spectrum disorder in public primary schools in Anambra State.

Table 2: The t-test Summary of Mean Ratings of Male and Female Teachers on their Level of Awareness of Pupils with Autism Spectrum Disorder

Respondents	N	\bar{X}	SD	p-value	Df	α	Remark
Male Teachers	89	7.31	5.07	0.10	846	0.05	Not Significant
Female Teachers	759	9.39	4.67				

Data presented on Table 2 revealed that the p-value of 0.10 is greater than 0.05 level of significance. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in mean ratings of male and female teachers on their level of awareness of pupils with autism spectrum disorder in public primary schools in Anambra State.

Research Question Two: What are the differentiated instructional strategies used by male and female teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State?

Table 3: Mean Ratings and Standard Deviation Scores on Differentiated Instructional Strategies used by male and female Teachers for Teaching Pupils with Autism Spectrum Disorder

S/N	Differential instructional strategies	Male Teachers (n = 89)			Female Teacher (n =759)		
		Mean	SD	Decision	Mean	SD	Decision
1	The individual differences observed among pupils are teaching into consideration during teaching and learning	2.30	1.31	Disagree	2.43	1.12	Disagree
2	Learning needs of each pupil with ASD diagnosed by teachers are handled by using varied instructions	2.24	.97	Disagree	2.21	1.03	Disagree
3	Each pupil with ASD are provided with flexible options about learning content to meet their needs	1.85	.95	Disagree	2.02	1.07	Disagree
4	Varied instruction are used to meet the learning aspiration of each pupil with ASD	2.28	1.09	Disagree	2.09	1.04	Disagree
5	Diverse factors of pupils are taken into consideration, while delivering instruction	2.66	1.03	Agree	2.55	1.08	Agree
6	Different instructional aids are used in illustrating concepts to meet diverse needs of pupils	2.31	1.07	Disagree	2.38	1.17	Disagree
7	The pupils' learning progress are monitored to modify the teaching methods	2.57	1.14	Agree	2.51	.96	Agree
Mean of Means		2.32	1.08	Disagree	2.31	1.07	Disagree

The results of data analysis present on Table 3 shows that male and female teachers mean scores for items 1, 2, 3, 4 and 6 are lower than the criterion mean value of 2.50 and this indicates disagreement as differentiated instructional strategies use for teaching pupils with autism spectrum disorder. On the other hands, both male and teachers agreed with items 5 and 7 as differentiated instructional strategies use for teaching pupils with autism spectrum disorder.

The results further reveal that overall standard deviation scores of male and female teachers are 1.08 and 1.07 and this indicates that there is homogeneity amongst their responses indicating a similar consensus of opinion. The mean of means of 2.32 and 2.31 for male and female teachers respectively, both of which are below 2.50 indicated disagreement that differentiated instructional strategies are not effectively used by teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Hypothesis Two: There is no significant difference in mean ratings of male and female teachers on their use of differentiated instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Table 4: The t-test Summary of Mean Ratings of Male and Female Teachers on their Use of Differentiated Instructional Strategies for Teaching Pupils with Autism Spectrum Disorder

Respondents	N	\bar{X}	SD	p-value	Df	α	Remark
Male Teachers	89	2.32	1.08	0.40	846	0.05	Not Significant
Female Teachers	759	2.31	1.07				

Data presented on Table 4 revealed that the p-value of 0.40 is greater than 0.05 level of significance. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in mean ratings of male and female teachers on their use of differentiated instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Research Question Three: What are the peer tutoring instructional strategies used by male and female teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State?

Table 5: Mean Ratings and Standard Deviation Scores on Peer Tutoring Instructional Strategies used by Male and Female Teachers for Teaching Pupils with Autism Spectrum Disorder

S/N	Peer Tutoring Strategies	Male Teachers (n = 89)			Female Teacher (n =759)		
		Mean	SD	Decision	Mean	SD	Decision
8	Clear rules are formulated before peer tutoring	2.67	0.94	Agree	1.80	1.10	Disagree
9	The entire class is divided into diverse groups for peer teaching exercise	2.06	0.84	Disagree	1.86	1.12	Disagree
10	Pupils with ASD are paired with others based on their behaviour	2.08	1.13	Disagree	2.56	1.04	Agree
11	Pupils are used tutors in presenting lesson to others with ASD	2.29	0.92	Disagree	2.31	1.17	Disagree
12	Classroom activities are coordinated, while a pupil tutor their peers with ASD	2.19	1.09	Disagree	2.30	1.17	Disagree
13	Appropriate behaviours of pupils with ASD are rewarded during tutoring	2.17	0.97	Disagree	2.50	1.09	Agree
14	Higher performing pupils are paired with those with ASD to review their academic activities	1.64	1.00	Disagree	2.33	1.09	Disagree
15	Pupils with good social skills are paired with those with ASD to improve their interaction	2.48	1.10	Disagree	2.45	1.12	Disagree
16	Each pupil with ASD gets extra consideration from the peer used as tutor	2.15	1.11	Disagree	2.36	1.17	Disagree
17	Corrections are made immediately after tutoring	1.99	0.91	Disagree	2.29	1.24	Disagree
Mean of Means		2.17	1.00	Disagree	2.28	1.13	Disagree

Data presented on Table 5 show that the mean scores lower than the criterion mean value of 2.50 were recorded by male and female teachers for items 9, 11, 12, 14, 15, 16 and 17 and this indicated disagreement as peer tutoring instructional strategies use for teaching pupils with autism spectrum disorder. On the other hands, male teachers agreed that item 8 is a peer tutoring instructional strategy use for teaching pupils with autism spectrum disorder, while their female counterparts disagreed with the item. Further result shows that the mean scores of 2.56 and 2.50 are recorded by female teachers for items 10 and 13 respectively which are above 2.50 show agreement with the items as peer tutoring instructional strategies. While in the case of male teachers, the mean scores for two items are 2.08 and 2.17 respectively which are below the cut off mean score of 2.50 indicate disagreement with the items.

The overall standard deviation scores of male and female teachers which were 1.00 and 1.12 indicate homogeneity in their ratings. The mean of means of 2.17 and 2.28 for both male and female teachers which are below 2.50 indicated disagreements that the peer tutoring instructional strategies listed are ineffective in teaching pupils with autism spectrum disorder. Thus, peer tutoring instructional strategies are not effectively used by teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Hypothesis Three: There is no significant difference in mean ratings of male and female teachers on their use of peer tutoring instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Table 6: The t-test Summary of Mean Ratings of Male and Female Teachers on their Use of Peer Tutoring Instructional Strategies for Teaching Pupils with Autism Spectrum Disorder

Respondents	N	X	SD	p-value	Df	α	Remark
Male Teachers	89	2.17	1.00	0.23	846	0.05	Not Significant
Female Teachers	759	2.28	1.13				

Data presented on Table 6 revealed that the p-value of 0.23 is greater than 0.05 level of significance. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in mean ratings of male and female teachers on their use of peer tutoring instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State.

Discussion of Findings

The finding of the study revealed that teachers demonstrate low awareness of pupils with autism spectrum disorder in public primary schools in Anambra State. This agreed with the finding of Twi-Yeboah, Cadri, Nagumsi, Danso and Mohammed-Sani (2021) which indicated that teachers had low levels of awareness of pupils with ASD in preschool. This also supported the finding of Paul and Gabriel-Brisibe (2015) which revealed that the teachers' awareness of pupils with Autism spectrum disorders was low in primary schools. This disagreed with the finding of Osenweugwor and Okunola (2022) which revealed that the teachers had a high-level awareness of ASD and positive attitudes toward the inclusion of learners with ASD in regular education classrooms. This also contradicted the finding of Omolayo, Auta, Akinyemi and Dennis (2020) which indicated teachers demonstrate high level of awareness of autism spectrum disorder in secondary schools. This disagreement in findings could be attributed to difference in geographical locations and educational levels in which the studies were conducted. The teachers demonstrate low awareness of pupils with autism spectrum disorder probably due to the absence of guideline and resources to identify and teach learners with such challenge. Some of primary school teachers are irregularly exposed to training and retraining on special education to acquire knowledge of autism spectrum disorder

It was revealed that there is no significant difference in mean ratings of male and female teachers on their level of awareness of pupils with autism spectrum disorder in public primary schools in Anambra State. This affirmed the finding of Ihsan and Wael (2019) which showed that there were no statistically significant differences in the mean ratings of teachers on the extent of their awareness of pupils with ASD based on their gender. This refuted the finding of Osenweugwor and Okunola (2022) which indicated that male teachers have positive awareness and attitude towards the inclusion of learners with ASD in general education classrooms than the female teachers. The disagreement in findings could be attributed to difference in geographical location. The mean ratings of male and female teachers on their level of awareness of pupils with autism spectrum disorder are statistically insignificant possibly due to similar nature of training they are exposed to, which fail to capture issues on pupils with ASD.

The result of the study showed that differentiated instructional strategies are not effectively used by teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. This is in line with the finding of Onyishi and Sefotho (2020) which indicated that the extent to which teachers use differentiated instruction was low in primary schools in Enugu State. The agreement in the findings could be attributed to the primary level of education with similar teaching practices in which the studies were conducted. This disagreed with the finding of Leballo, Griffiths and Bekker (2021) which revealed that the frequency to which teacher use differentiated instructional strategy was high. The difference in the participants and time span of the studies could account for the disagreement in the findings. The differentiated instructional strategies which are not effectively used by teachers for teaching pupils with autism spectrum disorder in public primary schools could be connected to large class size. The large class size primary schools tend to make it extremely difficult for teachers to give individualized attentions to pupils through use of differentiated instructional strategy.

Further results indicated that there is no significant difference in mean ratings of male and female teachers on their use of differentiated instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. This disagreed with the finding of Tadesse (2015) which showed that there is significant difference in male and female teachers' use of differentiated instructional strategies in teaching pupils. The disagreement in findings could be explained by difference in time span. The no significant difference in mean ratings of male and female teachers on their use of differentiated instructional strategies for teaching pupils with autism spectrum disorder could point to the fact that they have similar job experience and exposed to the same learning programmes in higher institution.

It was found that peer tutoring instructional strategies are not effectively used by teachers for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. This is in disagreement with the finding of Manubey, Batlolona and Leasa (2021) which revealed that peer tutoring was used to high extent in teaching pupils in inclusive classroom. The disagreement in the findings could be explained by difference in geographical location which tend to have varied instructional practices in schools. The teachers may find it difficult to set up a peer tutoring programme with clear defined objectives due to the fact they are rarely trained on the instructional strategy. The limited time and heavy workload of teachers could also explain the ineffective use of peer tutoring instructional strategies in teaching pupils with autism spectrum disorder. The resistance of some pupils to take on instructional responsibility that they feel belongs to the teachers tends to contribute to the ineffective use of peer tutoring instructional strategies in teaching pupils with autism spectrum disorder.

It was also revealed that there is no significant difference in mean ratings of male and female teachers on their use of peer tutoring instructional strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. This disagreed with the finding of Ekom-Idorenyin (2020) which indicated that there was significant difference between the male and female teachers' general attitude towards teaching pupils with ASD. The disagreement in the findings could be explained by the different geographical locations where the roles of male and female teachers could vary.

Conclusion

Based on the findings, it was concluded that the male and female teachers' exhibited low awareness and ineffective use of strategies for teaching pupils with autism spectrum disorder in public primary schools in Anambra State. Most male and female teachers in primary schools probably ineffectively use strategies for teaching pupils with ASDs due to low awareness of pupils with the brain development syndrome. The low awareness and use of effective strategies for teaching pupils with ASDs undermine their likelihood of excelling in their studies in mainstream classroom.

Recommendations

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

1. Anambra State Universal Basic Education Board should embark on public enlightenment campaign to create awareness of existence of pupils with ASDs in primary schools in the state.
2. Head teachers should organize annual seminars for teachers to upgrade their skills on the use of differentiated instructional strategies for teaching pupils with autism spectrum disorder.
3. Anambra State Universal Basic Education Board should develop handbook and make it available to teachers to guide them in the use peer tutoring in teaching pupils with autism spectrum disorder.

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