

Effect of Academic Functional Learning Aptitude Test Strategies on the
Academic Achievement of Learners with Autism Spectrum Disorder in Nigerian
Inclusive Schools

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Ce

This is to certify that Bolanle Titilayo Segilola with Matriculation Number LCU/PG/002890 carried out this research work titled “Effect of Academic Functional Learning Aptitude Test Strategies on the Academic Achievement of Learners with Autism Spectrum Disorder in Nigerian Inclusive Schools.” in the Department of Arts and Social Science Education, Faculty of Education, Lead City University, Ibadan, Oyo State, for the award of (PhD) Doctor of Philosophy Degree in Measurement & Evaluation and that this has not been previously submitted.

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Dedication

This research work is dedicated to concerned parents who seek functional lifestyle for the child or children who lives with special learning conditions, through the inspiration of the Almighty God.

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“Even though the above-mentioned institutions and persons have assisted in the process of this research work, I alone stand with the responsibility, and should be referred to, for any concerns that may be raised, if any may be found in this work.”

Abstract

The Joint National Association of Persons with Disabilities (JONAPWD) in Nigeria categorises learners with Autism Spectrum Disorder (ASD) under intellectually challenged group in both the constitution and the Inclusive Education Policy. This classification limits the exploration of academic achievement among ASD learners in Nigerian inclusive schools. To address this gap, the Academic Functional Learning Aptitude Test (AFLAT) model was developed. AFLAT comprises three components: academic aptitude diagnostics battery, teaching-learning strategies, and a support learning plan. This study aims to examine the main and interaction effects of AFLAT strategies on the academic achievement of ASD learners in inclusive settings, considering moderators such as gender, location, and socioeconomic status (SES). The study applies the treatment of AFLAT strategies with consideration to three theoretical reviews of ASD's mind perception, functional cognition and Blooms taxonomy of learning to improve the academic achievement. Seven research objectives and hypotheses were formulated and tested at a 0.05 level of significance. A quasi-experimental design was employed to assess the impact of AFLAT strategies (independent variable) on academic achievement (dependent variable), incorporating moderating variables. A sample of 60 ASD learners was selected from a population of 954 across four Nigerian regions and five states using a multi-stage sampling technique. Instruments used for data collection include the AFLAT's Specified Achievement Test (SAT-Guided) in selected subjects, and the Academic Aptitude Assessment Report (AAA-R), which provides aptitude ratings for academic performance. Instruments were subjected to face and content validity, and inter-rater reliability yielded a coefficient of 0.781, indicating good consistency. Data were analysed using descriptive statistics (frequency and percentage) and inferential statistics (Analysis of Covariance). Results showed significant main effects of AFLAT strategies on academic achievement ($F(1,57)=19.812$, $p<0.05$, $\eta^2=0.258$), and a significant effect based on residential location, particularly among urban participants ($F(1,57)=5.714$, $p<0.05$, $\eta^2=0.091$). These findings led to the rejection of null hypotheses 1 and 3. Post hoc was further used to estimate the direction of marginal means of the covariates in a chart. However, null hypotheses 2 and 4 were accepted, indicating no significant main effects for gender, ($F(1,57)=0.910$, $p>0.05$, $\eta^2=0.016$) and main effect of socio-economic status (SES), ($F(2,56)=0.807$, $p>0.05$, $\eta^2=0.028$) on academic achievement of ASD learners. Also, no significant interactions between AFLAT strategies and the moderating variables in hypotheses 5 to 7. These include; gender, ($F(1,55)=0.249$, $p>0.05$, $\eta^2=0.005$), location of

residence ($F(1,55)=0.824$, $p>0.05$, $\eta^2=0.015$), and SES, ($F(2,53)=0.260$, $p>0.05$, $\eta^2=0.010$). The estimated marginal means here differed only minimally across groups.

In conclusion, ASD learners in the treatment group showed immediate academic improvement, when compared to the control group. The study recommends that stakeholders in education, health, and social inclusion sectors should prioritise the learning of specially impaired learners considering academic and aptitude approaches based on AFLAT strategies to enhance learning outcomes in inclusive schools. This research contributes to the pedagogical structure of inclusive education, highlighting AFLAT's potential to benefit not only ASD learners but also those with other impairments and neurotypical learners in the Nigerian inclusive schools.

Keywords: Academic Functional Learning, Aptitude Test, Autism Spectrum Disorder, Academic Achievement.

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List of Acronyms

Abbreviation	Meaning
ADHD	Attention Deficit Hyperactivity Disorder
ADI-R	Autism Diagnosis Interview-Reviewed
ADOS-G	Autism Diagnostics Observation Schedule-Generic
AFLAT	Academic Functional Learning Aptitude Test
ASD	Autism Spectrum Disorder
ASQ	Age and Stages Questionnaire
CARS	Childhood Autism Rating Scale
CHC	Cattell-Horn-Carroll
CSBS	Communication and Symbolic Behaviour Scale
DN-CAS	Das-Naglieri Cognitive Assessment System
DSM-5	Diagnostic and Statistical Manual of Mental Disorder - 5
GARS	Gilliam Autism Rating Scale -Second Edition
IPU	Information Processing Unit
MCHAT	Modified Checcklist for Autism Toddlers
MMPI	Minnesota Multiphasic Personality Inventory

NPIE	National Policy on Inclusive Education
PASS	Planning, Attention-Arousal, Simultaneous and Successive Cognitive Processes
PEDS	Parents' Evaluation of Developmental Status
SDG-4	Sustainable Development Goal-4
SEN-D	Special Education Needs & Disabilities
STAT-YC Children	Screening Tool for Tool for Toddlers and Young
TAT	Thematic Apperception Unit
ToM	Theory of the Mind
WAIS-R	Wechsler Adult Intelligence Scale-Revised
WJ-3R	Woodcock-Johnson 3-Revision