

PREVALENCE OF LEARNING DISABILITIES AMONG PUBLIC SECONDARY SCHOOL STUDENTS IN KANO STATE: A PROBLEM OF SUSTAINABLE NATIONAL DEVELOPMENT IN NIGERIA

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Abstract

Learning disabilities (Ld) is a hidden handicap that affects people's ability, skills and capacity to understand what they see around them and connect the incoming and outgoing-information between senses and brain. It is indeed a problem that impedes sustainable national development. This study was therefore, carried out to investigate the prevalence of Ld among public secondary school students in Kano state. Haling scale named. Learning Disabilities Diagnostic Inventory (LDDI) was used to rate three hundred and eight four (384) students drawn from 24 public secondary schools. ANOVA and t-test statistics were used to analyze the data with 0.05 as level of confidence. The result reveals significant difference in the rate of prevalence of specific L.D among public secondary school students. It was therefore, recommended that government and other stake holders in education should work closely with one another to provide programmes and facilities for those with L.d to live a successful and productive life that would enhance national growth and development.

Introduction

Learning disabilities (L.d) is today a household name. This is because youngsters with L.d.do not out grow it. They grow up to become adults with L.d, (Lowry, 1990). Learning disabilities can cause emotional distress. Meaning, it can affect self-esteem, education, vocation, socialization and daily living activities,(ibid), these no doubt can lead to frustration and worries, thereby impeding national growth and development. As a matter of fact, these problems have led to the presence of abundant cases of students with specific L.d in Kano state and Nigeria in general. This is today, a matter of concern that continued to hinder national growth and development. However, the major problems is not the presence of people with specific disorders but the facts that their disorders were not identified early for proper remediation.

Theoretical Background

The term "learning disabilities" is used to describe people with developmental problems in academic and socio-emotional skills. Such problems affect people's ability to either interpret what they see and hear or link information from different part of the brain. These limitations can show up in many ways; as specific difficulties with spoken and written language, co-ordination, self control or attention, which may extend to school work and impede learning (National Educational Research Development Center, (NERDC) 2004.

Theoretical Concepts

Problems of learning are approached from a variety of perspectives, especially as it relate to the brain and nervous system. The behaviorists at one side are of the pinion that events inside an individual need to be investigated externally. The neurophysiologists at the other end feel that it is necessary to examine the brain and nervous system. Contemporary neurophysiologists belief that activities and behaviours in an individual are controlled by cells and chemicals in the brain and nervous system. However, it has been shown that genetic and environment are the most likely basic Ld, (ABCs of LD/ADHD. Htm).

A leading theory among researches is that L.d is caused by subtle disturbances in the brain structures and functions, which may result in neurological dysfunction, (fiedorowicz, 1999).Plessis (2000), hold a different view on the cause of L.d. Her view concedes that gene may play a role in the origin of Ld. She however, opine that L.d may occur if learning is not stratified (i.e from simple to complex level).

Another leading theory is that L.d is genetically transmitted, (university of Westminster 2003). This view posits that, the genetic influences on common Ld are not specific to each disorder, rather a large but un identified group of genes, each with very small effects on overall brain function, work together to determine most of mental ability. Thus, three generalist natural of gene affecting Ld are identified.

- » Genes that affect common Ld are the same genes responsible for normal variation in learning disorders.
- « Genes are not specific to one type of disorders but rather are general to all symptoms of the disorders.
- Genes affecting one L.d affect others (ibid).

Similarly, Plomin (2003), centers his view on general problems in the brain rather than specific genetic or neurological defect. Etc however, disputes the" idea of L.d and opines that such category of people fall at the lower level of cognitive ability.

Statement of the Problem

The problem under study is indeed crucial because of its rate of prevalence among youth as well as its effect on national development programmes. This continued to generate a lot of concern among the various stakeholders in education.

It is suggested that majority of school drop-out have poor educational achievement. Many of them experience continued difficulties into and through adulthood. It is devastating to discover that, a cross section of adolescent population encounters considerable difficulties in learning to read and write. Some find little more than continue failure and are unable to fit into the society, socially or financially.

It is emphatically apparent that frustration due to low perceptual ability can lead to delinquent behaviour. Emotional distress worries or concern may increase L.d. Consequently, street begging, hawking, experimenting with drugs and stealing may be on the increase. It is obvious that one of the contributory factors that cause truancy is low mental ability. If students are worried about their school work, their anxiety about their performance can decrease their ability to pay attention to what they have to learn, at the end, they will give up. Such students are always sad and get into fight easily because, they felt misunderstood and disapproved.

These problems highlighted and others not mentioned are common among public secondary school students in Kano state, who are academically and emotionally downtrodden. The question is, what is the extent and rate of prevalence of L.d among public secondary school students in Kano State? Thus, this study was designed to investigate.

the extent and rate of prevalence of L.d among public secondary school students in Kano State.

The difference in the rate of prevalence of specific L.d among public secondary school students.

The difference in the rate of prevalence of Ld among urban and rural, male and female, senior and junior, boarding and day public secondary school students in Kano State respectively.

This would help the government and other stakeholders to plan and redirect developmental programmes that will assist those with L.d

Objectives of the Study

The main objectives of this study were to

1. determine the extent and rate of prevalence of specific L.d among public secondary school students in Kano State.
2. find out the difference in the rate of prevalence of L.d between urban and rural public secondary school students in Kano State .determine whether there is gender difference in the rate of prevalence of L.d among public secondary schools students in Kano State.
4. determine the difference in the rate of prevalence between boarding and day public secondary schools student in Kano Slate.

Hypotheses

The following hypotheses were formulated for the study.

1. There is no significant difference in the prevalence of specific L.d among public secondary school student in Kano State.
2. There is no significant difference in the prevalence of L.d between urban and rural public secondary school students in Kano Slate.
3. There is no significant difference in the prevalence of L.d between male and female public secondary school students in Kano State,
4. There is no significant difference in the prevalence of L.d between boarding and day public secondary school students in Kano State.

Significance of the Study

Findings from the study would reveal the extent of L.d prevalence as well as the specific types of Ld. This would no doubt stimulate though and pave way for policy legislation as well as refocusing educational programmes, learning strategies, compensatory techniques, and remedial intervention for students living with Ld. In this section, research design, population of the study, sample size and sampling techniques as well as data collection instrument, validity, reliability of the instrument and procedures for data collection and analysis are presented.

Research Design

Descriptive survey method was used in which data collected from a few schools sampled was. analysed in order to determine the extent and rate of prevalence of L.d among public secondary school students in Kano State.

Population of the Study

The population of the study comprise all the public secondary school students in Kano State. There was an estimated total of two hundred and forty eight thousand, hundred and forty eight thousand, two hundred and fifty our (248, 254) public secondary school students among fo-ur hundred and four (404) public secondary schools in Kano State as at 2005/ 2006 session (source: Kano State ministry of education. Planning and statistics department).

Sample and Sampling Technique

Guided by the principle of Morgan and Kraycie (1997), as cited in Isyaku (2003), a total of three hundred and eighty four (384) students were randomly sampled from twenty four (24) public secondary schools. Simple stratified random sampling technique was used. This was achieved though grouping of schools into zones (i.e educational zones recognized by the state

ministry of education) and then into strata (i.e urban, rural, male female, boarding and day secondary school. Selection of school from each zone was based on the appropriateness of the school to the variables contained in the research. Since the research is concerned with finding the difference among the strata, equal samples were selected from each stratum, (Bich, 1997), giving an average of 16 students per school. Similarly, a relatively random procedure was employed to select considerably qualified research assistants. Thus, a total of 120 raters were selected for the rating, giving an average of 5 rater per school with one selected as team leader.

Instruments for Data Collection

The instrument used for data collection was Learning Disabilities Diagnostic Inventory (LDDI) designed by Hammill and Bryant, (1998). The instrument -irasures intrinsic processing disorders and learning disabilities ins students. Lddl is made up of six subscales, i.e listening speaking, reading writing, mathematics and reasoning. Each subscale contains 15 items. The total scores of the responses obtained were rated against percentiles and stanines.

Validation of Instrument

LDDI was earlier subjected to pilot studies by Hammill and Bryant, (1998) and Haruna (2006). Co-efficient obtained from the studies revealed relative reliability and validity of the instrument.

Reliability of the Instrument

Study of Hammill and Bryant (1998), have shown an average co-efficient of 92 for all the subscales. Similarly, the internal consistency reliability was equally measured by Haruna (2006) on population similar to the one used in this study. The cronbach alpha co-efficient across the processing areas ranges from .78 to .85, indicating a relatively high internal consistency.

Reliability of Stability

The reliability of stability of Lddi indicate a high co-efficient. According to Hammill and Bryant (1998) and Haruna (2006), the correlation co-efficient obtained from the test-retest analysis of students, all met the 80 criterion.

Data Collection Procedures

The method used for data collection was the naturalistic observation (Bichi, 1997). This was achieved through the use of research assistants. Professional teachers, form masters and guidance and counselors, with at least three terms (one session) familiarity with the students were engaged. Five raters from each school were led through a pre-rating practice exercise in order to familiarize them with the items as well as the administration and scoring of LddT. In each of the 24 schools selected only an average 16 students were sample and rated, giving a total of 384 students.

Method of Data Analysis

The data collected were first grouped into *likely, unlikely and equivocal*. Also the numbers of students in each of the six processing disorders that make up the specific areas of Ld were determined.

In addition, the figures obtained from group likely to have Ld were further regrouped into strata. I.e urban, male, female, senior, junior, boarding and day, public secondary schools. Consequently, figures obtained were then analyzed via Anova and t-test. The data collected are hereby presented in tables.

TabSe 1 Summary of Rating of Students (N = 384)

No of schools	No students	No likely to have Ld	No. Unlikely to have Ld	No of equivocal
24	384	145	134	105
%	100%	37.8%	34.9%	27.3%

Assumptions

1. students identified as likely to have L.d are those that at least one of their Lddl scores fall above 6 or at least one of their Lddl scores fall below 6;
2. students identified as *Unlikely* to have L.d are those that either all their Lddl scores fall above 6 or all their Lddl score fall below 6.
3. students identified with equivocal profiles are those that:
 - i. their Lddl scores fall within the range of 6 and below;
 - ii. their Lddl scores fall within the range of 6 and above;
 - iii. their Lddl scores are completely 6 all through.

Form those with equivocal profiles, other diagnostic assessment tools have to be considered before conclusion can be made.

Note: Lddi result is reported in percentiles and Stanines, (Hammill and Bryant, (1998; Pp 28-30).

In table 1.2, the results of the rating in relation to the rate of occurrence of specific L.d is presented.

	Listening	Speaking	Reading	Writing	Maths	Reasoning
u _{No}	115	98	56	35	36	15
%	79.3%	67.6%	38.6%	24.1%	24.8%	10.3%

Figures contained in the table above reveals the heterogeneity among the processing disorders. Similarly, in table 1.3 the result of rating in relation to frequency of occurrence is presented.

Data Analysis and Hypotheses Testing

Hypothesis 1

There is no significant difference in the rate of prevalence of the six areas of specific Ld among public secondary schools students in Kano State.

To test this hypothesis, figures obtained in table J.2 were analyzed using one way Anova, and presented in Table 1.4

Table 2 Analysis of Variance for the Prevalence of Specific Ld (N ^ 145) _

Source of variance	Sum of squares	Df	Mean square	F	P0.05
Between group	321.118	5	64.22	23.53	Significant
Within group	376.71	140	2.73		

The figures obtained in the tables indicates that the variability between the group means is significantly large than average variability within the group. Therefore, the null hypothesis 1 is rejected.

Hypothesis 2

There is no significant difference in the rate of prevalence of Ld between urban and rural public secondary schools students Kano State,

To test this hypothesis, t-test of independent sample was use to analyze the figures obtained table 1.3. The result is presented in table 1.5

Table 4 T-test Result of Prevalence of L.d between Urban and Rural Public Secondary School Students (N - 145)

Parameter	No of	Means	SD	SB	DF	T-cal	T-crit	PO.05
Urban	57	4.75	2.179	629	143	2.59	1.717	Significant
Rural	88	7.33	2.674	772				

calculated value of 2.59 is significantly greater than the critical valve of 1.717. To this end, null hypothesis 2 is therefore, rejected.

Hypothesis 3

There is no significant difference in the rate of prevalence of Ld between male and female public secondary school students in Kano State. T-test was used to test the hypothesis, and the result is presented in table 1.6.

Table 5 T-Test Result of Prevalence of Ld between Male and Female Students (N = 145)

Parameter	No fo	Means	SD	SE	DP	t-cal	T-crit	P<0.05
Male	66	5.5	3.09	.892	143	0.92	1.717	N.S
Female	79	6.6	2.31	.668				

The values obtained from the calculations shows that t-value is less than the critical value of 1.717, therefore, the null hypothesis 3 is hereby accepted.

Hypothesis 4

There is no significant difference in the rate of prevalence of Ld between senior and junior public secondary school students in Kano State. The t-test analysis is presented in table 1.7 below,

Hypothesis 5

There is no significant difference in the rate of prevalence of learning disabilities between boarding and day public secondary school students in Kano State. The t-test result is presented in table 1.8 below

Table 6 T-test Result of Prevalence of Ld between Boarding and Day Students. (N = 145)

Parameter	No students	Means	SD	SE	DF	t-cal	t-crit	P<0.05
Boarding	86	7.2	1.70	.490	143	2.18	1.717	Significant
Day	59	4.9	3.15	.908				

As it is apparent in the table, the critical value of 1.717 is less than the calculated value, therefore the null hypothesis 5 is rejected.

Findings

1. with respect to the first hypothesis on the rate of prevalence of specific L.d, there is significant difference in the processing disorders.
2. with respect to the second hypothesis on the rate of prevalence of L.d between urban and rural public secondary school students there is also a significant difference.
3. for hypothesis 3, there is no gender difference in the prevalence of l.d among public secondary school students.
4. in the case of boarding and day students, a significant difference existed in the rate of prevalence of L.d.

Discussion

From the analysis of the data collected, it was found that a significant difference exists in the rate of prevalence of the six areas of specific Ld. This finding reveals the heterogeneity of the disorders. The researcher therefore, posits that, not all the students have the same kind of disorders. This is however in line with the theory of L.d opined by University of Westminster (2003).

The study also revealed a significant difference in the rate of prevalence of L.d between urban secondary school students. This finding conforms to the view of NHRDC (2004), According to her, L.d may occur concomitantly with other extrinsic influences, such as cultural difference, insufficient or in appropriate instructions.

Gender was however, found to be insignificant in determining the rate of prevalence of Ld. This result concurs with that of Giwa (1996). He investigated the performance of males and females with learning problem in arithmetic and found that no significant difference existed.

Findings from the analysis between boarding and day students reveal that there is a high rate of prevalence among boarding students than day students. This finding concurs with that of Barau (1999). According to him, 70% students admitted into boarding schools in Nasarawa state are average and below average in intelligence. The significance of his findings indicates a likelihood of Ld prevalent among boarding school students.

Recommendation

1. government should urgently establish an intensive awareness campaign programme to educate the public on the nature and etiology of learning disabilities.
2. there should be training and retraining of school principals, guidance and counselors and subject teachers on the various strategies for management students with Ld.
3. there should be regular workshop and seminar for teachers on the various techniques for identification, diagnosis, intervention and remediation of students with Ld.
4. government should equip schools in order to provide the necessary atmosphere or stimulation that can promote learning.
5. in addition to placement evaluation, there is the need for proper diagnosis of students before completing JSS 3. This will assist the authority in properly placing (he students in the right discipline.
6. counseling centres should be established and adequately equipped with current facilities and personnel in ail secondary schools in the state. In addition, community counseling services should be introduced *in* all the local government areas to provide free diagnosis and students.
7. students should be educated on their areas of disability and how they can live a successful and productive live. In addition success attributes should be inculcated in them such as seif awareness, proactively goal selling etc.
8. government should mobilize and encourage P. T. A. and NGOs to actively participate in areas

of assistance and research in the field of Ld.

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