

EFFECT OF DYSGRAPHIA ON ENGLISH LANGUAGE PERFORMANCE OF PRIMARY FOUR PUPILS AT HAGAGAWA SPECIAL PRIMARY SCHOOL BICHI, KANO STATE

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Abstract

This research investigated the effect of Dysgraphia on English Language performance of primary four pupils at Hagagawa Special Primary School, Bichi LEA, Kano State. Two research questions and hypotheses guided the study. The population comprise of 300 pupils. The study used purposive sampling technique in finding the sample of pupils with dysgraphia which was 22 pupils. Three instruments were used for data collection, these include Checklist for the identification of pupils with dysgraphia (writing difficulties), Handwriting performance test and End of term English language examination records for determining academic performance of pupils with and without dysgraphia. Furthermore, t-test for independent samples was used to test the hypotheses while Chi-square was used to analyse research questions one and two. The findings of the study revealed that there are pupils with dysgraphia among primary four (4) pupils at Hagagawa Special Primary School, Bichi. It further showed that Motor dysgraphia is the most occurring type exhibited by primary 4 pupils with dysgraphia. It was found that dysgraphia significantly affects English Language performance of primary 4 pupils of Hagagawa Special Primary School Bichi. Moreover, the study also revealed that there is significant effect of dysgraphia on English language performance of primary 4 male and female pupils with dysgraphia. The study recommended that, Teachers should be patient and give additional time for pupils with dysgraphia to complete their written exercises. They should also find out which positions work best for the child with dysgraphia in the classroom.

Keywords: *Dysgraphia, English Language, Performance*

Introduction

Dysgraphia is a condition that causes trouble with written expression. Dysgraphia is a brain-based issue. It is not the result of a child being lazy. For many people with Dysgraphia, just holding a pencil and organizing letters on a line is difficult. Their handwriting tends to be messy. Many struggle with spelling and putting thoughts on paper. Dysgraphia is a deficiency in the ability to write, primarily in terms of handwriting but also in terms of coherence. It occurs regardless of the ability of the child to read, and it is not due to intellectual impairment. Dysgraphia is a transcription disability, meaning that it is a writing disorder associated with impaired handwriting, orthography in the storing process of written words and processing the letters in those words and finger sequencing (the movement of muscles required to write). Dysgraphia often overlaps with other learning disabilities such as speech impairment, attention deficit disorder or developmental co-ordination disorder (Madrine, 2015).

Bamidele (2017), opines that Dysgraphia is a biologically based disorder with genetic and brain

bases. More specifically, it is a working memory problem. In Dysgraphia, children with learning disabilities fail to develop normal connections among different brain regions needed for writing. Children with Dysgraphia have difficulty in automatically remembering and mastering the sequence of motor movements required to write letters or numbers. Children with Dysgraphia can often write on some level and may experience difficulty with other fine motor skills, such as tying shoes. However, Dysgraphia does not affect all fine motor skills. Children with Dysgraphia often have unusual difficulty with handwriting and spelling which in turn can cause writing fatigue. They may lack basic grammar and spelling skills (for example, having difficulties with the letters p, q, b, and d), and often will write the wrong word when trying to formulate their thoughts on paper. The disorder generally emerges when the child is first introduced to writing.

Patino (2014) viewed that Dysgraphia can cause trouble with writing. It can affect child's penmanship, ability to grip a pencil, and other skills related to writing. Crouch and Jakubecy (2007)

postulated that, children with Dysgraphia tend not to advance as quickly as other children in school and their handwritten work suffers because of its illegibility. They found that incorrect paper position could lead to cramped fingers, which can directly lead to poor handwriting. Also found that some students focus on their hand rather than on the formation of letters. International Dyslexia Association (IDA, 2000) explains that Dysgraphia can interfere with a student's ability to express ideas. Expressive writing requires a student to synchronize many mental functions at once: organization, memory, attention, motor skill, and various aspects of language ability. In the complexity of remembering where to put the pencil and how to form each letter, a Dysgraphia student forgets what he or she meant to express. Dysgraphia can cause low classroom productivity, incomplete homework assignments, and difficulty in focusing attention. Handwriting difficulties can therefore weaken educational progress and interfere with learning of children with learning disabilities (Bamidele, 2017).

Waliter, Kawaas, Simanjuntak, Wijaya, Yohanes & Ningtyas (2015) was of the view that Dysgraphia interferes with the student's ability to write a composition. Students may forget what they planned to write because they are trying to remember how to form the letters. They may write more slowly, and their handwriting may be so illegible that the reader cannot decipher the message. Thus, handwriting affects the thinking ability, knowledge, and ideas of students with Dysgraphia. Bamidele (2017) also added that dysgraphia can disturb and interfere with educational progress of a student. Poor handwriting can also affect students negatively in terms of completing daily academic assignment and the ability to take note during lessons and frequency of writing. Poor handwriting can lead teachers to misunderstand what is written and prompt them to give low marks to students in examinations, most especially, those with learning disabilities.

Dysgraphia is a learning disability that affects a person's ability to write. The term learning disability is the name for a group of disorders that affect a person's ability to listen, read, write, speak, or do Mathematics. In fact, 30-40% of the surveyed

children with learning disabilities had handwriting difficulties.

On the other hand, Umar and Usman (2014) explain English Language as a language of communication in our post primary institutions, higher institutions as well as the official language of the country. However, it is disheartening to note that the poor performance of students in English language at public examinations in recent times has been explained as a major cause of decline in the general academic performance and standard of education in Nigeria. Oluwole (2008) was of the view that "having difficulty in grasping fully the contents and concepts of the various subjects of the curriculum taught in target language seem to be one of the most serious problems that English as a first language students face in their particular course of study. This might be due to their weaknesses in English language (the medium of instruction) which may have negative consequences on their overall performance. Another important cause of poor performance in English language is the negative attitude of students toward the learning of English language. Students, particularly in secondary and primary schools mostly show negative attitude toward learning of English language because they consider it foreign or not theirs. It is obvious that for any student to be proficient in English language, mastering of skill of listening, speaking, reading, and writing is necessary, and it requires a hardworking and dedication from the students.

However, Sa'ad, (2007) in Umar & Usman (2014) was of the view that successful achievement of stated objectives in teaching and learning is always associated with using the right method. Sometimes teachers of English language do not consider the learners' age, the topic, the time and background of the learners in choosing the method to be used in teaching and this affects the level of learning of the students.

Pupils with learning disabilities often struggle with various areas of academic performance. During the elementary school years, a discrepancy between ability and achievement begins to emerge in pupils with learning disabilities. Often puzzling to teachers, these pupils seem to have strengths similar to their peers in several areas, but their rate of learning is unexpectedly slower. These

problems usually persist from the primary grades through the end of formal schooling, including college (NASET, 2006). Academic performance of pupils with learning disabilities therefore consists of scores obtained from teacher-made test or examination. A number of factors have been identified as affecting pupils with learning disabilities academic performance. Some of these include: poor handwriting, pupil's family background, parental discipline, degree of self-efficacy and school location etc. Another emerging factor of academic achievement is the school the learner attends (Bossaert, 2011).

Lassiter (1995) in Bamidele (2017) looks at academic performance of students with learning disabilities as referring to a student's performance in a given academic area. A student who earns good grades or awards in a particular subject for example in handwriting has achieved in the academic field of that subjects. He further stated that education associations and schools monitor the overall level of student academic performance to decide what, if any challenges, need to be addressed in the educational system.

Statement of the Problem

It is not uncommon to find pupils in primary schools having difficulties with handwriting. Some pupils confuse upper and lower case, writing irregular letter sizes and shapes, while some manifest letter inconsistencies, poor organization on the line and on the page among others. Certainly, such problems which are all indications of dysgraphia may influence pupil's achievement in academic subjects such as English language. In fact, pupils with dysgraphia fail to develop normal connection among different brain regions needed for writing. They have difficulty in automatically remembering and mastering the sequence of motor movements requiring writing letters or numbers (Maikano, 2016). children with Dysgraphia struggle to draw, trace, or reproduce simple shape, they forget or misuse punctuation, Dysgraphic children have trouble in reading maps and chart, unable to read own handwriting, trouble with sentence structure or following rules of grammar when writing, spells the same word multiple different ways even in the same paragraph, and also difficulty following a line or staying within margins (Devon, 2017).

No doubt, pupils in many of our public schools in Kano State today experience difficulty with English Language. This is expressed in both written and oral forms. The problem of dysgraphia may be a factor responsible for poor writing mechanism of English words and sentences on the part of the pupils. However, there are some issues that causes handwriting problems in primary schools which includes issues like poor handwriting instructions, poor attitude to position of handwriting skills, inadequate knowledge of standing English language conservation, lack of support and motivation etc. Certainly, schools under Bichi L.E.A are not exempted from the problem. This study therefore is prompted to establish whether there is an element of dysgraphia on English language performance of primary 4 pupils at Hagagawa Special Primary School, Bichi Local Government, Kano State.

Objectives of the Study

The study seeks to achieve the following objectives:

1. To determine the prevalent rate of pupils with dysgraphia among primary 4 pupils at Hagagawa Special Primary School, Bichi L.E.A, Kano State.
2. To find out the types of dysgraphia exhibited by primary 4 pupils of Hagagawa Special Primary School, Bichi L.E.A, Kano State.
3. To determine if dysgraphia affects English language performance of primary 4 pupils in Hagagawa Special Primary School, Bichi L.E.A, Kano State.
4. To find out if there is gender difference in English language performance of pupils with dysgraphia in Hagagawa Special Primary School, Bichi L.E.A, Kano State.

Research Questions

For the purpose of this study, the following research questions were formulated:

1. What is the prevalent rate of dysgraphia among primary 4 pupils at Hagagawa Special Primary School, Bichi L.E.A, Kano State?
2. What are the specific types of dysgraphia exhibited by primary four pupils at Hagagawa

Special Primary School, Bichi L.E.A, Kano State?

Research Hypotheses

H0₁: Dysgraphia does not significantly affect English language performance of primary 4 pupils with dysgraphia and those without dysgraphia.

H0₂: There is no significant effect of dysgraphia on English language performance of primary 4 male and female pupils.

Research Design

This study is of quasi- experimental type which adopted ex-post facto design. An ex-post facto design seeking to determine effect of an independent variable on a dependent variable. Ex-post facto defines as that research, in which the independent variable or variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables. He then studies the independent

variable in retrospect for their possible relations to, and effects on the dependent variable or variables (Sharma, 2019). An ex-post facto research design is a method in which groups with qualities that already exist are compared on some dependent variable. Also known as “after the fact” research, an ex-post facto design is considered quasi-experimental because the subjects are not randomly assigned, they are grouped based on a particular characteristic or trait (Alley, 2021). Neil (2010) added that an ex-post facto study or after-the-fact research is a category of research design in which the investigation starts after the fact has occurred without interference from the researcher.

Population of the study

The population of this study comprises all primary four pupils in Hagagawa Special Primary School Bichi, Kano. Therefore, it consists of Three hundred (300) primary four pupils of Hagagawa Special Primary School, Bichi L.E.A., Kano State. The breakdown of the population is presented in table 1:

Table 1: Population of Primary Four Pupils at Hagagawa Special Primary School

S/N	CLASS	MALE	FEMALE	TOTAL
1.	Primary 4A	45	34	79
2.	Primary 4B	42	34	76
3.	Primary 4C	40	37	77
4.	Primary 4D	33	35	68
TOTAL		160	140	300

(Source: Headmaster Hagagawa Special Primary School, 2019)

Sample Size

The sample size consists of 89 males and 80 females of primary four pupils. This gave the total of 169 primary four pupils of Hagagawa Special Primary School as sample size for the study, according to research advisors (2006) table for determining sample size. Out of the number (169) 12 male and 10 female have dysgraphia which gave the total number of 22 pupils with dysgraphia. and 147 pupils without dysgraphia in the area of study.

Sampling Technique

Purposive sampling technique was adopted in determining the sample size of the pupil. In purposive sampling technique, subjects are

selected because of some characteristics. Also, in purposive sampling technique samples are selected with purpose in mind. In purposive sampling technique, sample is selected in a deliberative and non- random fashion to achieve a certain goal (Olaofe, 2010). Purposive sampling is a non-probability sampling that is selected based on characteristics of a population and the objective of the study (Crossman, 2019). In other words, only subjects that satisfied the requirement of the researcher are selected.

Data Collection Instruments

In this study, the researcher used three instruments for data collection. First instrument is checklist which consists of the characteristics of dysgraphia for the identification of pupils

experiencing writing difficulties (dysgraphia). The second Instrument was handwriting performance test which is meant to measure the pupil's handwriting difficulties (dysgraphia). And the third instrument was End of term English Language examination record.

Data Analysis Procedure

The researcher used Chi-square to analysed research question one and two. The hypotheses

were analysed using t-test for independent samples to determine the effect of Dysgraphia on English language performance of Primary 4 Pupils at Hagagawa Special Primary school, Bichi, LEA, Kano State.

Data Analysis

Research Question one: What is the prevalent rate of pupils with dysgraphia among primary 4 pupils at Hagagawa Special Primary School Bichi?

Table 2: Chi-square was employed to find out the Prevalent rate of primary four pupils with Dysgraphia as shown in table 2:

N	Df	X ²	X ² – critical value	Decision
22	3	0.000	1.000	Rejected

From table 2, Chi-square was used to find out the prevalent rate of pupils with dysgraphia and the result shows that the level of significant at 0.05 is less than the X² – critical value at 1.000. it indicated that there is a prevalent rate of pupils with dysgraphia among primary four pupils of Hagagawa Special Primary School Bichi.

Research Question Two:

What are the specific types of dysgraphia exhibited by primary four pupils at Hagagawa Special Primary School, Bichi?

Table 3: To find out the types of dysgraphia exhibited by primary 4 pupils with dysgraphia Chi-square was also employed to analyse the data in table 3:

N	Df	X ²	X ² – critical value
22	4	17.200	.004

From table 3 it shows that Chi-square was used to find out the most occurring types of dysgraphia in primary four. The results indicate that the significant value at 0.05 is less than X² – critical value at .004 therefore, the null hypothesis is rejected. The analysis indicated that only motor

dysgraphia was found to be highest across all the types of dysgraphia.

H0₁: Dysgraphia does not significantly affect English language performance of primary 4 pupils with dysgraphia and those without dysgraphia.

Table 4: To test this hypothesis, t-test for independent samples was employed to analyse the data as shown in table 4: N= 44

S/N	Group	N	\bar{X}	SD	DF	Cal. t. value	Cri. t. value	Level of Sign	Decision
1.	Dysgraphics	22	18.95	2.1	42	1.86	1.684	0.05	Rejected
2.	Non-Dysgraphic	22	54.72	2.1					

From table 4 it shows that the number of both dysgraphic and non-dysgraphic pupils is 22 in each of the groups, the mean of pupils with dysgraphia is 18.95 while the mean of non-dysgraphia is 54.72, the standard deviation of pupils with dysgraphia is 2.1 and for non-dysgraphia pupils also is 2.1. However, the degree of freedom for both dysgraphia and non-dysgraphia pupils is 42. Also, it shows that calculated t. value of each group (dysgraphia and non-dysgraphia) is 1.86 while the critical t. value of each of the group is 1.684. It

indicated that each of the group (dysgraphia and non- dysgraphia) were calculated at 0.05 level of significance. Since the calculated t. value is higher than the critical t. value, the null hypothesis is rejected, meaning that significance difference exists, and that dysgraphia significantly affect English language performance.

HO₂: There is no significant effect of dysgraphia on English language performance of primary four male and female pupils with dysgraphia.

Table 5: To test this hypothesis, the pupils test (score) for male and female pupils with dysgraphia was used to analyse the data in table 5:

N= 22

S/N	Group	N	X	SD	DF	Cal. t. value	Cri. t. value	Level of Significance	Decision
1.	Male	12	10.27	0.09	20	1.88	1.725	0.05	Rejected
2.	Female	10	8.45	0.91					

The above table 5 indicated that, the total number of male pupils with dysgraphia is 12 while the female pupils is 10, mean of male pupils is 10.27 while the mean of female pupils is 8.45, the standard deviation of male pupils is 0.09 while female pupils have 0.91. The degree of freedom for both male and female pupils is 20. Also, it indicated that calculated t. value of each group (male and female) is 1.88 while the critical t. value of each of the group is 1.725. However, the level of significance of each of the group were calculated at 0.05. It shows that the calculated t. value is higher than the critical t. value, since the calculated t. value is higher the null hypothesis is also rejected, meaning that significance difference exists between male and female pupils with dysgraphia and that it affects male pupils than their female counterparts.

Summary of Findings

The following are the major findings of the study.

1. The study revealed that there are pupils with dysgraphia among primary four (4) pupils at Hagagawa Special Primary School Bichi
2. The study shows that Motor dysgraphia is the most occurring type of dysgraphia exhibited by primary 4 pupils with dysgraphia.

3. It was found that dysgraphia significantly affects English language performance of primary 4 pupils of Hagagawa Primary School Bichi.

4. It was also found that there is significant effect of dysgraphia on English language performance of primary 4 male pupils than female pupils with dysgraphia.

Discussion on Findings

Analysis pertaining to prevalent rate of pupils with dysgraphia it reveals that there are pupils with dysgraphia among primary four (4) pupils at Hagagawa Special Primary School Bichi. This study is in line with the study conducted by Smits-Engelsman & Van Galen (1997) who's reported that handwriting difficulties are commonly observed in children at primary schools, particularly in boys. Prevalence has been estimated to range between 5-27% depending on grade, selection criteria, and instruments used. The study agreed with the study conducted by Sharma & Khan (2020) whose study discovered that the prevalence of handwriting difficulties among the school children was 34%. Overall, 67% of boys and 33% of girls had handwriting difficulties. The study also reported similar result to the study carried out by Dohla & Heim (2016)

which revealed that the prevalence for developmental writing disorders is about 7-15% among school-aged children, with boys being more affected than girls. However, the study conducted by Graham & Harris (2005) reported that there are 10-30 % children in a school with writing problems. (Rosenblum, Weiss and Parush, 2004; Graham & Harris, 2005) postulated that 11-12% of female students and 21-32% of male students have handwriting difficulties. Moreover, this study is in line to the study carried out by Smits-Engelsman *et al.* (2001) who's reported that 34% of the group of 125 children displayed handwriting problems.

The second finding indicates that among primary 4 pupils with dysgraphia Motor dysgraphia is the most occurring type of dysgraphia exhibited by primary 4 pupils with dysgraphia. this study is in line with the study conducted by Kumar, *et al* (2018) who reported that most common presentation of dysgraphia among students is a motor dysgraphia resulting from damage to some part of the motor cortex in the parietal lobes. The study is however contrary to that of Sharma & Khan (2020) in which their findings revealed that students with handwriting difficulties showed difficulties with Writing speed, Letter reversal, and Spacing. The study is also like the study carried out by Smits-Engelsman *et al.* (2001) who's reported that, the analysis confirmed on serious handwriting problems are accompanied by fine motor deficits. Keifer (2015) revealed that many students with dysgraphia struggle with fine motor tasks such as colouring and cutting. These students often lack confidence as well as engagement when participating in any writing task.

The third finding indicates that dysgraphia significantly affects English language performance of primary 4 pupils. This result is in line with the result of Mudasiru, *et al.* (2017) in which their study indicated that, there is significant relationship between English language achievement and dysgraphia. However, Adebayo and Adeleke (2010) study is contrary to the findings of this study whose revealed that there is no significant difference between dysgraphia and pupil's academic performance in English language.

The fourth finding also indicated that, there is significant effect of dysgraphia on English language performance of primary four male and

female pupils with dysgraphia. This study is in line with the study conducted by (Graham, *et al.*, 1982; Smits-Engelsman, *et al.*, 1995) reported that boys had low scores than girls in fine motor skills and academic achievements. This study however contradicts the study conducted by Attah and Ita (2017) whose revealed that gender has no significant influence on academic performance in English Language. Viswaprasad (2005) also pointed out that the performance of both boys and girls were almost same in all writing skills, but there was a significant difference in writing spelling among them. This result finding is also contrary to the study of Fakeye (2010) the study revealed that there was a positive relationship between student's attitude and their academic achievement in English language. It also showed significant difference in the academic ability of male and female students with male students having higher academic ability mean scores.

Conclusion

In the light of the findings of the present study, it was concluded that dysgraphia prevails among primary school pupils at Hagagawa Special Primary School, and therefore, necessary steps should be taken to overcome it. Besides, motor dysgraphia is the most observed among all types of dysgraphia. Similarly, it was also concluded that dysgraphia significantly affects English language performance of primary four (4) pupils and that significant gender differences exists among primary four (4) male and female pupils with dysgraphia as far as English language performance is concerned.

Recommendations

The following are the recommendations from the study.

1. Teachers should be patient and give additional time for pupils with dysgraphia to complete their written exercises. They should also find out which positions works best for the child with dysgraphia in the classroom.
2. Teachers should be aware that dysgraphia exist in different kinds, and some are more common than the other. Therefore, intervention should centre on the type of dysgraphia that was found to be much more common among the learners.

3. It is recommended that English language teachers should give special attention to pupils with dysgraphia so that their problems could be ameliorated if not completely eliminated.
4. It is also recommended that teachers should consider gender in teaching pupils with dysgraphia. Male should be handled differently from their female counterparts

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