

## Effects of Dialogue Journal Technique on Writing Skills of Children with Dysgraphia in Public Schools Kaduna State, Nigeria

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### **Abstract**

*This study explored the impact of the Dialogue Journal Technique on writing skills of children with dysgraphia in public primary schools, Kaduna State. The study addressed two questions and tested two hypotheses. True experimental, non-equivalent pretest-posttest control group design was used for the investigation. The study population comprised all Primary One pupils in public schools in Kachia Local Government Education Authority, Kaduna State. A sample of 40 pupils was randomly assigned to the experimental and control group, with 20 participants in each group. The experimental group had a 12-week intervention using DJT, which involved activities like colouring, tracing, drawing, and copying in personalized dialogue notebooks. In contrast, the control groups were taught with the conventional teaching methods. Data collection was conducted using the Writing Skills Test (WST), while the Dialogue Journal Technique was the intervention. The reliability of the WST was a coefficient of 0.90, using the Statistical Package for the Social Sciences, indicating a high level of consistency. Descriptive and inferential statistical methods were used to analyse data. Results from the pretest revealed that all children with dysgraphia had low level at pretest while the experimental group at posttest, high level writing ability due to the intervention. The progress made due to pupils' exposure to the dialogue journal technique, fostered their confidence and competence in writing. The study recommended that Kaduna State Universal Basic Education Board should be organizing workshop and seminars for primary schools' teachers on the use of DJT in teaching writing.*

**Key words:** Children with dysgraphia, Dialogue journal technique, Writing skills.

### **Introduction**

Writing is a fundamental form of communication, primarily aimed at conveying ideas, thoughts, and emotions or sharing information. It serves as a concrete and lasting representation of these mental constructs of ideas, thoughts and feelings captured on paper in an organized and coherent manner. According to Brown and Abeywickrama (2017), writing entails expressing one's thoughts and ideas in a clear and understandable way through the use of

symbols, alphabetic characters, punctuation, and spacing. Beyond being a measure of literacy and a tool for evaluating children's academic progress, writing is a daily practice engaged in both educational settings and the workplace. It is a crucial literacy skill, children must acquire to effectively communicate with others in written form. The ability to write effectively helps children to succeed in their academic activities in school (Pollard, 2018).

Writing is one of the four language skills and is crucial for children because it enhances the acquisition of other skills which is one of the primary objectives of language education (Federal Republic of Nigeria, 2014). The ability to write meaningfully is one of the prerequisites for functional and permanent literacy. Essentially, writing skill is an academic tool that gives children opportunity to participate actively in the classroom. Children must be taught to write before transition to higher schools. They should be taught how to hold pencil and pen correctly in order to colour, trace, draw and copy printed symbols accurately (Elliot, 2015). Acquisition of these writing skills helps the children to write with correct capitalization, punctuation, spacing, formatting and without omission of letters in word or wrong spelling.

Dialogue journal technique (DJT) is an ongoing written interaction between two people exchanging experiences, ideas, or reflections. It is a strategy where children with dysgraphia learn to write through constant use of written communication with their teachers. Rana, (2018) stated that in dialogue journal technique (DJT), the teacher communicates regularly with the children using dialogue note books over a period of time until the children can write meaningfully. The written conversation must always be an ongoing activity where the teacher is also an active participant rather than an evaluator who corrects, comments, and introduces new topics or asked questions orally. Thus, dialogue journal technique is a written conversation which a pupil and teacher communicate regularly through writing, each responding to the other's entries which results to the record of one's thought, feelings, reaction, assessment, idea or progress.

Agesa, (2014) and Wanahyu (2018) explained that, dialogue journal is an instrument that permits teachers to incorporate reading and writing into the children learning processes. Dialogue journal technique allows children to take initiative to shape their ideas or thoughts in written form, without thinking about its mechanism. During the written communication, children are often not imposed on writing about a specific topic propose by the teacher, but rather based on content related to pupils' interest or concerns. Forountan and Noordin (2017) states that, one of the best ways to view learning from learner's perspective is through dialogue with teacher in writing. While Johnson, (2020) noted that, dialogue journal technique not only provides a means for the teacher to create and sustain caring relationship with the learner, but it also makes sure that quite voice in the classroom are heard outside the classroom. Dialogue journal technique is one of the practical mediums to empower children at the elementary school and motivating them to learn to write as well as increase their fluency in writing. Similarly,

Madeng (2019) stated that practice writing daily helps to enhance children writing skills. It also helps them to put their thoughts and feelings into words as means of expression.

Dysgraphia is a learning disorder that impairs a child's ability to write, spell, and organize written language effectively. It is classified as a neuro developmental condition, commonly revealed through illegible and inefficient handwriting caused by challenges with letter formation. According to Wilson (2015), dysgraphia is a writing-related learning disability that affects children with normal intelligence, stemming from neurological and visual-motor deficits. Lingley (2015) also described dysgraphia as a condition that causes difficulty in writing letters and numbers. He noted that children with dysgraphia struggle to execute the precise motor movements needed to form letters, copy symbols, and write numbers accurately.

Children with dysgraphia have normal intelligence like other children of their age, but have partial inability to remember and form certain letters of the alphabet or symbols correctly. They also find it difficult to hold pencil or pen correctly and form letters of the alphabet. According to Patino (2018), children with dysgraphia are fund of mixing lower and upper case letters within the same word, cramped and awkward pen or pencil grip, awkward body position when writing, unfinished or omitted words, mixing printed or cursive letters in a word, difficulty thinking and writing at the same time, low classroom productivity, participation, incomplete assignments or homework, problem focusing attention on ongoing written activities and difficulty with syntax, sentence formation, grammar and use of rules of writing sentences. Generally, children with dysgraphia have poor handwriting, difficulty with hand-eye coordination, fine motor skills, spellings difficulties, difficulty with word retrieval, challenges with sentence structure and composition, avoidance behaviors frustration and anxiety as well as low self-esteem, which hinders their performance in the classroom (Bacha, 2017 Muhudara, Ngadiso & Sulistyawati, 2017 & Jonah, 2018).

## **Statement of the Problem**

Children with dysgraphia in the study area are not taught to write using dialogue journal technique. On entering school, children are taught to write without being introduced to prewriting activities such as colouring, tracing, drawing and copying. During writing lesson pupils with dysgraphia are not actively engage and clearly instructed on what to write and how to write a task. Most of the writing activities are not based on children background knowledge and experiences. Sufficient time and attention are not given to children with dysgraphia to learn how to write. These children write with a lot of errors such as, misspelling, omission, substitution of letters and inconsistent handwriting. Children writing are illegible and full of mix ups of upper-and lower -case letters within word. Letters and words are written outside the margin of the exercise book.

Many children with dysgraphia struggle to convey meaning through their writing. They frequently reverse letters and words, for example, writing “d” instead of “b”, “r” instead of “y”,

or confusing words like “tap” with “pat”, and “pot” with “top”. Children who fail to meet age-grade writing expectations often face academic frustration, which can lead to disengagement or even dropping out of school due to their inability to express themselves effectively through written language. Given these challenges, this study aims to explore the impact of the Dialogue Journal Technique (DJT) in addressing writing difficulties experienced by pupils with dysgraphia in public primary schools.

## **Aim and Objectives**

The aim of this study is to examine the effect of dialogue journal technique (DJT) on the writing abilities of children diagnosed with dysgraphia in Kaduna State, Nigeria. Specifically, the study seeks to:

1. Determine the writing skill level of children with dysgraphia in the experimental and control groups before and after exposure to dialogue journal technique.
2. Determine the extent to which dialogue journal technique can improve the colouring skill level of children with dysgraphia before and after intervention.

## **Research Questions**

The study is guided by the following research questions:

1. What are the writing skill levels of children with dysgraphia in the experimental and control groups before and after exposure to treatment?
2. What are the pretest and posttest colouring skill levels of children with dysgraphia?

## **Null Hypotheses**

The following hypotheses are formulated to guide the study:

1. There is no significant difference between the pre-test writing skill mean scores of children with dysgraphia in the experimental and control groups.
2. There is no significant difference between the post-test colouring skill meanscores of children with dysgraphia in the experimental and control groups.

## **Methodology**

The study adopted a quasi experimental design, specifically a non-equivalent pretest-posttest control group design. Participants were randomly assigned into two groups, the experimental and control group. The experimental group received training using the Dialogue Journal Technique (DJT) for twelve weeks while Control Group received conventional writing instruction (placebo). The population were all Primary One pupils in Kachia Local Government Education Authority (LGEA), Kaduna State. A sample size of 40 pupils were randomly selected and assigned to the experimental and control groups using a mixed sampling approach.

Purposive sampling was used to select the school for the study while simple random sampling to select and assign pupils to the experimental and control groups.

The Writing Skills Test (WST), a researcher-developed instrument was used for both pretest and posttest assessments. The WST assessed four core writing skills essential for early writing proficiency. Both construct and content validity were established and a pilot study yielded a reliability index of 0.90, indicating high internal consistency. Dialogue Journal Technique (DJT) was adapted from Huynh (2022) and implemented exclusively with the experimental group to enhance writing skills. Pre-test was administered to both groups to establish baseline writing proficiency while a post-test was administered after the 12-week intervention to measure the effect of DJT. Data collected was analysed using descriptive statistics to answer research questions via simple percentages. Inferential statistics employed to test hypotheses using independent samples t-test at a 0.05 level of significance, analysed with SPSS version 24.

## Result and Discussion

**Research Questions 1:** What are the writing skill level of children with dysgraphia in the experimental and control groups?

**Table 1: Writing Skill Levels of Children with Dysgraphia in the Experimental And Control Groups**

Group	Pre-test Ability Level			Total
	Low	Average	High	
Experimental	16(80%)	4(20%)	-	20(100%)
Control	16(100%)	4(20%)	-	20(100%)

Table 1 shows the result of writing skill level of children with dysgraphia in the experimental and control groups before exposure to dialogue journal technique. From the pretest results, all the children with dysgraphia in the experimental and control groups had low writing ability level. This shows that both groups were at the same writing skill level before experimental group was exposed to DJT.

**Research Question 2:** What is the pretest and posttest colouring skill level of children with dysgraphia?

**Table 2: Colouring Skill Levels of Children with Dysgraphia in the Experimental and Control Groups**

Group	Pre-test Ability Level			Total	Post-test Ability Level			Total
	Low	Average	High		Low	Average	High	
Experimental	16	4	-	20 (100%)	-	-	20	20 (100%)
	(80%)	(20%)					(100%)	
Control	18	2 (10%)		20 (100%)	17	3 (15%)	-	20 (100%)
	(90%)				(85%)			

Table 2 shows the results on colouring skill level of children with dysgraphia in both the experimental and control groups. The experimental group at the pre-test level had a low colouring ability, but in the post-test, none of the children had low and average colour ability, all the 20(100%) pupils had high colouring ability, indicating that DJT increased the colouring ability of the children from low and average to high ability level. Majority of the children in the control group still had low colouring ability at both the pre-test and post-test level with only 3(15%) of them having average ability level at the post-test.

**Null Hypothesis 1:** There is no significant difference between the pretest writing skill mean scores of children with dysgraphia in the experimental and control groups. Data verifying  $H_0$  are contained in Table 1.

**Table 3: Pre-test Writing Skill Mean Scores of Children in the Experimental and Control Groups**

Group	N	Mean	Std	DF	t	p-value	Decision
Experimental	20	23.25	1.37				
				38	1.43	.160	Not significant
Control	20	22.55	1.70				

Table 3 reveals the t-test result of the pre-test writing skill mean scores of children in the experiment and control groups. In the experimental group, the pretest mean score was 23.25 with standard deviation of 1.37, while the control group had a mean score of 22.55 and standard deviation of 1.70. The result also yielded  $t(38) = 1.43, P > 0.05$ . Since the P-value of 0.160 is greater than the 0.05 level of significance, the null hypothesis was retained. It was concluded that there was no significant difference between pre-test ability mean scores of children in the experimental and control groups. This shows that the experimental group performed at the same level with the control group in the pre-test.

**Null Hypothesis 2:** There is no significant difference between the post-test colouring skill mean scores of children with dysgraphia in the experimental and control groups Data verifying Ho 2 are contained in Table 4.

**Table 4: Post-test Colouring Skill Mean Scores of Children in the Experimental and Control Groups**

Group	N	Mean	Std	DF	T	P-Value	Decision
Experimental	20	15.50	1.24				
				38	31.30	0.000	Significant
Control	20	6.00	.56				

Table 4 reveals the t-test result of the post-test colouring skill mean scores of children in the experimental and control groups. In the experimental group, the post-test mean score was 15.50 with standard deviation of 1.24, while the control group had a mean score of 6.00 and standard deviation of .56. The result also yielded  $t(38) = 31.30, P < 0.05$ . Since the P-value of 0.000 is less than 0.05 level of significance, the null hypothesis was rejected. It was concluded that there was a significant difference between the post-test colouring ability mean scores of children in the experimental and control groups. It shows that the experimental group performed better than the control group in colouring after exposure of the experimental group to DJT.

### Discussion of Findings

The study investigated the effects of dialogue journal technique on writing skills of pupils with dysgraphia in Kachia, Kaduna State, Nigeria. In response to Research Question One Table 1 analysis revealed that, the writing skills of the experimental and control groups were at the same level at the pretest. There was no significant difference between the pretest writing skills mean scores of pupils with dysgraphia in the experimental and control groups. After the experimental group was exposed to DJT, they showed higher percentage score in their ability to trace, colour, draw and copy. This finding is in consistent with findings by Muhudara, Ngadiso and Sulistyawati (2017), Jonah (2018) and Wanahyu (2018) who had similar results at pre-test but pupils improve on their writing skills after been taught to write using DJT. Hypothesis one, Table 3 analyses also showed that the experimental group performed at the same level with the control group in the pretest. This is in line with Foroutan and Noordin (2016) who found that dialogue writing had a significant difference in improving pupils' written communication.

The result from Table 2 revealed that, at the pretest, majority of the pupils in both the experimental and control groups had low colouring skill but those in the experimental group

improved after exposure to treatment using colouring activities, 100% of the pupils had higher colouring ability. They were able to colour symbols and shapes within the boundary correctly. While majority of the pupils in the control group who were taught using the conventional method had low colouring ability. This finding conforms to that of Elliot (2015) who found that, colouring activities when used frequently can help pupils to mud line the muscles of pupils' fingers, hand and wrist which aid in manipulating small objects for fine motor activities.

Similarly, Hypothesis Two Table 4 indicated that there is no significant difference between the posttest colouring skill mean scores of pupils with dysgraphia in the experimental and control groups. This showed that the differences in the posttest colouring ability mean scores of experimental group and control group is as a result of intervention with colouring activities in dialogue journal. This is in line with Stewart (2017) who found that prewriting activities helped to improve pupils writing skills in term of size, spacing and speed of writing.

## **Conclusion**

Writing is a vital language skill, especially for children with dysgraphia, who require targeted instruction to develop meaningful writing abilities. Mastery of writing is a key educational milestone that students must achieve before transitioning to higher levels of schooling. Children tend to learn more effectively in a supportive, nonthreatening environment where they can express themselves freely without the fear of failure. In this study, children in the experimental group participated in colouring activities designed to strengthen their writing skills. They were provided with various shapes and pattern that is, vertical, horizontal, diagonal lines, curves, straight letters, symbols, and object outlines, to colour in their dialogue journals.

These activities improved their pencil or pen grip and also, helped the children learn to write within ruled lines and maintain proper margins on paper. The post-test results revealed that the experimental group showed significantly greater improvement in writing skills compared to the control group. This progress is attributed to their exposure to the dialogue journal technique, which encouraged confidence and competence in writing.

## **Recommendations**

Based on the findings, the researchers recommended that:

1. The Kaduna State Universal Basic Education Board should organize workshops and seminars for primary school teachers on the effective use of DJT in teaching writing.
2. While teaching writing to children with dysgraphia, teachers should take into account pupils' background knowledge and experiences.
3. Upon entering school, teachers should begin teaching writing through prewriting activities such as colouring, tracing, and drawing to increase pupils' fine motor skills.
4. Teachers should devote time and attention to children with dysgraphia to support their writing development.

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