Letting Children Copy Words by Hand Before Teaching Them to Read: An Effective Tool for Teaching Early Reading Literacy

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DOI: https://doi.org/10.47772/IJRISS.2026.100601187

Received: 27 June 2026; Accepted: 02 July 2026; Published: 14 July 2026

ABSTRACT

Reading is an essential skill for young pupils to develop their comprehension because it is considered a positive predictor of a child's future academic and personal success. Children with strong early literacy abilities are more likely to excel academically, have better social skills, and have higher levels of self-esteem and confidence. Hence, this research aims to disclose the potential effectiveness of copying words through handwriting before teaching the children to read. The study is at one of the schools in the Philippines. There were 10 second-grade pupils as respondents via purposeful random sampling. The study utilised an experimental design to analyse a pre-test-post-test with a standardised reading comprehension test (Phil-IRI), the Philippine Informal Reading Inventory. The acquired data were analysed through experimental design, testing the hypothesis using the mean and standard deviation, inferential statistics such as a paired t-test, and a 5% margin of error for each segment. The hypothesis was tested at the 0.05 level of significance. According to the findings of a T-test of Mean Difference (t-value = -21.67, p-value = 0.000), pupils' reading levels have greatly improved when words are copied by hand before teaching them to read. It is recommended that teachers use the strategy of allowing children to copy words by hand before teaching them to read, as this approach enhances children's reading proficiency and addresses their poor reading skills.

Keywords: Copying text before reading , Descriptive and inferential statistics, , Reading Level, Phil Iri, Tagoloan Central School, questionnaires

INTRODUCTION

Learning to read is an important goal in early elementary education. As a result, school-based learning is intimately related to reading. Given these circumstances, pupils are likely to enhance their reading fluency (Domingue et al., 2021). Children who develop strong early literacy skills are more likely to perform well in school. Early reading experiences better prepare children for success in later grades (National Institute for Literacy, 2022). These early skills help them develop the ability to focus, process information, and engage in problem-solving tasks. When a child learns to read early, they are able to access more complex materials as they grow. They will not struggle to understand what they read later in life, allowing them to stay ahead academically. This can also lead to greater self-confidence, as children who can read well early on are less likely to experience frustration in their studies (The Structured Stone Educational Resource, 2022).

However, the COVID-19 pandemic has had a significant impact on the educational climate since the beginning of 2020. The impact of these learning experiences on students' academic performance is a major concern in educational policy, management, and practice. This tendency is particularly evident in reading literacy, a vital skill that determines students' success in other disciplines and allows them to engage in society for the rest of their lives. The COVID-19 pandemic also had various effects on kids. Even within the same educational system, some student groups may have been more severely impacted than others (Weissmann et al., 2020; Meinck et al., 2022).

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume X Issue VI June 2026

COVID-19 had a substantial impact on children's reading abilities; in Southeast Asia, just 10% of Grade 5 students exceeded the basic competency requirement by the end of primary school (Southeast Asia Learn, 2020). In addition, only one in every five 15-year-old Filipino students met the required level of general reading literacy. On the other hand, 90.9% of Filipinos live in reading poverty (PISA (Programme of International Student Assesment), 2021; World Bank, 2023). Furthermore, only three out of every twenty students in the Philippines' public schools can read simple texts, due COVID-19 pandemic, which has forced the country's schools to close for the longest period of time—more than 70 weeks—since mid-February. Furthermore, more than 85% of 10-year-old Filipino children are unable to read or comprehend a simple story, with the figure rising to 90% in November of last year (Unicef, 2023). There is still evidence of continuing reading poverty in Philippine schools.

Early reading literacy is vital for all children; nevertheless, various impediments may impede a child's capacity to develop excellent reading skills. For example, children from low-income families may have fewer books at home and limited access to literacy tools (Roper, & Schwartz, 2024). Children with learning disabilities, such as dyslexia, may encounter additional difficulties in developing reading skills. Schools, communities, and legislators must address these discrepancies and ensure that all children have equal chances to develop literacy skills. Early intervention, specialized assistance, and accessible resources are essential for ensuring that every kid has a chance to flourish.

And it is the role of teachers to develop or discover techniques to assist children with their reading difficulty. In my classroom, I learned and observed that enabling children to hand-copy words before teaching them to read is an extremely effective reading method. Handwriting connects early reading development to fundamental reading and spelling abilities (Swerling, 2021). Furthermore, handwriting copying is thought to aid the unconscious brain in associating words, spelling, and sentence structure, allowing youngsters to learn to read (Luo & Xiao, 2020). The purpose of this study is to remind teachers of the advantages of letting pupils copy words by hand before teaching them to read. This study will look into the benefits of letting children write words by hand before learning to read. Teachers should carefully evaluate the study's findings, limitations, recommendations, and efficacy.

Research Questions

1. Does allowing second-grade students to copy words by hand before teaching them to read strengthen their reading skills?

2. Does allowing children to copy words by hand before teaching them to read result in a visible improvement in their reading levels?

Scope and Limitations of the Study

The study's results require careful and attentive evaluation due to certain limitations. The following points are important to note as limitations of this study.

First, it emphasizes that the findings do not imply that digital technologies have no place in early schooling. However, it depending too much on typing-based systems, particularly in the early stages of reading acquisition, may leave children with weaker foundations in letter-sound mapping and word identification. These core abilities are required for eventual academic success and reading proficiency.

Second, several limits must be considered. The sample size was tiny, with only 10 children considered in the population, which may have reduced the ability to identify smaller impacts. Furthermore, the study primarily evaluated short-term learning

Third, not everyone benefits equally. People with dysgraphia or fine motor issues may experience handwriting as frustrating or fatiguing. In such cases, assistive technology may be more cognitively supportive (PRAJAPATI ,2025).. Furthermore, the benefit of handwriting appears strongest for learning and recall—not necessarily for real-time communication or collaboration. Future research might look into whether the benefits

of handwriting remain over time and how they combine with the broader range of digital encounters that youngsters have in modern classrooms.

Fourth, the intervention only examines the effect of having children copy words by hand before teaching them to read, and this study does not look at the effect on the duration of the intervention. Future researchers might focus on and study these variables.

REVIEW OF RELATED LITERATURE

In an increasingly digital environment, screens and keyboards are gradually replacing pen and paper in schools. However, neural networks exist in the brain during handwriting and typewriting because communication between different brain regions is more elaborate when letters are generated by hand (Pirchner & Pirchner, 2024). This increased brain connection, which is essential for memory formation and information encoding, may suggest that writing by hand aids learning (Ullrich & Lutgendorf, 2020).

A Cognitive process analysis during handwriting , Anderson (1980) and cognitve functions Piaget (1950). The cognitive processes and cognitive functions that contribute to better retention include generative processing, desirable difficulty, and sensorimotor integration. Handwriting is associated with these cognitive processes. Accordingly, when writing by hand, a person is more likely to paraphrase, distil, and structure information rather than copy it word for word, and processing improves encoding into long-term memory, which means generative processing. Furthermore, writing by hand slows a person down, which makes them think more deeply. This extra friction helps people focus, set priorities, and mentally organise information, which makes memory traces stronger and provides a desirable level of difficulty. Handwriting involves movement-based learning. A pen on paper provides tactile feedback, and the physical formation of letters adds a spatial and kinaesthetic layer to sensorimotor integration (Very Big Brain, 2025).

Furthermore, a graphomotor hypothesis on handwriting states that the physical act of writing letters by hand improves the mental representation of those letters (Dolan, 2025). Writing by hand requires coordinated movements, attention to shape, and sensory feedback—all of which appear to encourage learning (Echart, 2022). Furthermore, handwriting tasks effectively lock the motor and sensory systems together; for example, there is a very clear link between the physical action being performed and the visual and conceptual recognition being made. Drawing a letter or writing a word involves taking a perceptual awareness of something and using the motor system to generate it (Hu, 2024). The creation is then transmitted back into the visual system, where it is processed again, increasing the link between an action and the visuals or words that go with it. It's comparable to picturing something and then producing it: materializing something from one's imagination (by writing it, drawing it, or building it) reinforces the imagined concept and helps it linger in the person's memory (Vanderbilt University, 2020; Vinci-Booher, 2020).

Brain responds differently to handwriting writing by hand because is a more physically and cognitively demanding task. It requires fine motor coordination, spatial awareness, and continuous decision-making about what to write and how to write it. These demands activate more brain regions than typing, including areas involved in motor planning, working memory, and language processing.And, also handwriting notes can enhance cognitive retention by promoting deeper processing, improving conceptual understanding, and engaging more brain regions involved in learning and memory consolidation. Also, handwriting activates the hippocampus and visual processing areas and with stronger memory consolidation through handwriting (Norwegian Study ,2020; University of Tokyo Research ,2021).

Handwriting activates more extensive and interconnected brain networks and stronger neural connectivity during handwriting, particularly in areas tied to memory and sensory processing and engages the brain in ways that support learning more effectively and handwriting helps young children master both the building blocks of reading and the structure of written language. Handwriting provides significant advantages over visual learning when it comes to helping elementary school students acquire new English words, particularly their shapes, sounds, and meanings (Setionago, 2025).

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume X Issue VI June 2026

Handwriting affect early reading development because children who trained by hand-copying or tracing consistently performed better. After letter training, handwriting groups were significantly more accurate when naming and writing the letters, both key indicators of alphabetic learning. All children could visually recognize the letters at a high level. The real difference emerged when tasks required recalling sounds and producing written letters, skills essential for reading and spelling. Handwriting advantage extended beyond individual letters. In the word learning tasks, children in the handwriting groups were better at reading aloud the trained pseudowords, writing them from dictation, and identifying them among visually similar alternatives (Spain,).

Because when youngsters penned the words by hand, the sensors detected extensive connections across several brain areas. Handwriting stimulated connection patterns in visual, sensory, and motor cortical regions (Jaynejubb, 2026). The latter is responsible for body movement and sensorimotor integration, which allows the brain to use external information to predict a person's next action. Handwriting can help children learn to read more effectively. In a study of 5-year-old prereaders, those who practiced writing by hand—either by copying or tracing—outperformed youngsters who typed the identical content on a computer in a range of activities. The findings lend substantial support to the theory that the physical act of writing improves children's capacity to learn letters and words (Experimental Child Psychology, 2024; Dolan, 2025).

To enhance children's reading skills, allowing them to write letters and words can be beneficial. Here are some key points:Writing reinforces letter recognition and phonetic awareness.It helps develop fine motor skills essential for writing and reading. Children learn the connection between sounds and letters through writing.Writing practice can improve spelling and vocabulary retention.Engaging in writing activities can boost confidence in reading abilities. It encourages creativity and expression, making reading more enjoyable.

RESEARCH METHODS

Participants and/or other Sources of Data and Information

The pupils in grade two were the study's respondents via purposeful random sampling. The following criteria were pupils officially enrolled in elementary school, specifically in grade two for the SY 2024-2025; 2) pupils who regularly attended classes as evidenced by attendance reported from the teachers; and 3) students who had given their full consent to participate in the study.

Instruments

The instruments were secondary documents such as result of pre-test and posttest reading level PHIL IRI (Philippine Informal Reading).

Data Collection

The study followed the ethical norms and a code of conduct from 1992. The study was planned and carried out in compliance with ethical standards. First, everyone involved in the study gave their full approval. The principal or school administrator, parents, or legal guardians of any children participating gave their consent as respondents. The researcher was also aware of the right to privacy and the confidentiality of any information used to identify individual parents of the identified students whose records as data in this study agreed with the data's use.

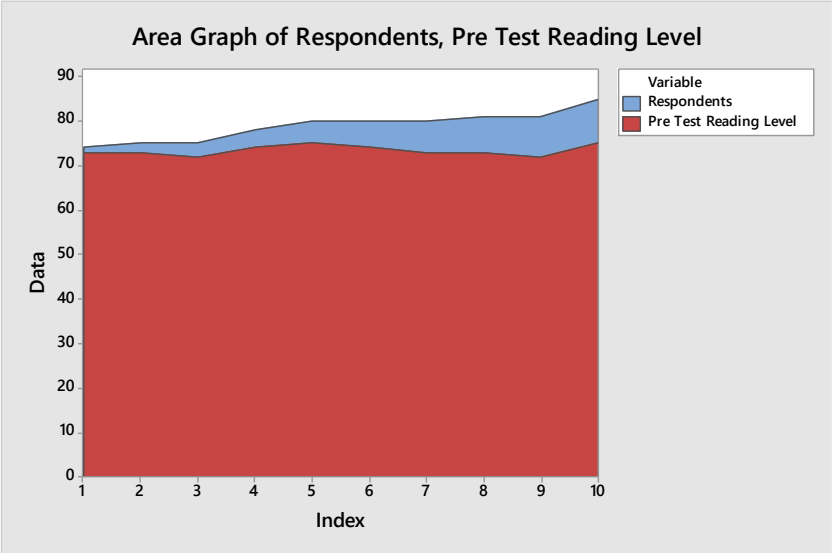
Ethical Consideration

The study ensured respect by obtaining consent from the respondents, protecting their privacy, maintaining adequate confidentiality of the research data, ensuring the anonymity of individuals and organizations who participated, and upholding honesty and transparency throughout the process. Additionally, we avoided any misleading data or biased representation of primary data findings.

Data Analysis Plan

The data analysis utilized the following statistical measures: mean and standard deviation. The mean was used to define the data set in terms of the pupils' pre-test and post-test reading levels from Phil-IRI (Philippine Informal Reading) results, and the standard deviation was used to determine the difference in the observed pupils' reading levels between the pre-test and post-test results from Phil-IRI (Philippine Informal Reading). A paired t-test is used to establish the p-value and assess whether there is a statistically significant difference between two independent and dependent variables or hypothesis testing from pre-test to post-test results from Phil-IRI (Philippine Informal Reading).

DISCUSSION OF RESULTS



According to this area graph, the respondents of the pre-test from the Phil-IRI reading level are grade two pupils who marked a failing reading level due to poor reading skills and abilities for the 2024-2025 school year. This data is from the pre-test Phil-IRI (Philippine Informal Reading) results.

The area graph of respondents from the post-test reading level represents the data collected from selected grade two pupils who improved their reading level for the school year 2023-2024 using the strategy of letting children copy words by hand before the teacher teaches them to read. This graph further illustrates the effectiveness and helpfulness of the strategy that involves having children copy words by hand before the teacher teaches them to read, as it shows that grade two pupils have achieved enhanced reading levels.

It implies that teachers must employ the strategy of letting children copy words by hand before the teacher teaches children to read because of its proven effectiveness and helpfulness in enhancing grade-two reading levels and helping children develop reading and spelling skills. Handwriting is part of literacy and an essential skill for life. Handwriting also helps with the ability to recall and remember information (Raising Children, 2022).

Tally for Discrete Variables: Respondents, Pre Test Reading Level, Post Test Reading Level

Pre Test			Post Test					
Reading			Reading					
Respondents	Count	Percent	Level	Count	Percent	Level	Count	Percent
1	1	10.00	72	2	20.00	85	2	20.00

2	1	10.00	73	4	40.00	86	3	30.00
3	1	10.00	74	2	20.00	87	3	30.00
4	1	10.00	75	2	20.00	88	2	20.00
5	1	10.00	N=	10		N=	10	
6	1	10.00						
7	1	10.00						
8	1	10.00						
9	1	10.00						
10	1	10.00						
N=	10							

Descriptive Statistics: Respondents, Pre Test Reading Level, Post Test Reading Level

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Maximum
Respondents	10	0	5.500	0.957	3.028	1.000	10.000
Pre Test Reading Level	10	0	73.400	0.340	1.075	72.000	75.000
Post Test Reading Level	10	0	86.500	0.342	1.080	85.000	88.000

Paired T-Test and CI: Pre Test Reading Level, Post Test Reading Level

Paired T for Pre Test Reading Level - Post Test Reading Level

	N	Mean	StDev	SE Mean
Pre Test Reading Level	10	73.400	1.075	0.340
Post Test Reading Level	10	86.500	1.080	0.342
Difference	10	-13.100	1.912	0.605

95% CI for mean difference: (-14.468, -11.732)

T-Test of mean difference = 0 (vs ≠ 0): T-Value = -21.67 P-Value = 0.000

Variables	N	Mean	StDev	SE Mean
Pre Test Phil Iri results (without intervention)	10	73.400	1.075	0.340
Post Test Phil Iri results (with intervention)	10	86.500	1.080	0.342
Difference	10	-13.100	1.912	0.605

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume X Issue VI June 2026

Statistical Test	Result
95% CI for mean difference	(-14.468, -11.732)
T-Test of mean difference = 0 (vs ≠ 0)	T-Value = -21.67
P-Value	0.000

Test of significant difference between teachers' extent use of copying words by hand before teacher teaches children to read as reading strategy and enhancing pupils' reading level.

The study's results show a P-value of 0.00, which means that there was a very big difference between the reading levels of the grade two students in the pre-test (which did not let them copy words by hand before the teacher taught them to read) and the post-test (which did let them copy words by hand before the teacher taught them to read). Furthermore, the study's results indicate a mean difference of -13.100 and a standard deviation of 1.912. Therefore, the results revealed a highly significant difference between the reading levels of the identified grade two children in the pre-test, which did not use the strategy of allowing children to copy words by hand before the teacher taught them to read, and the post-test, which did use this strategy.

It implies that teachers need to utilize the strategy of letting children copy words by hand before teachers teach the children to read because it helps pupils improve their reading level. The pre-test and post-test results indicate a significant difference between the pre-test results, which did not involve the intervention of allowing children to copy words by hand before reading instruction, and the post-test results, which included this strategy. Therefore, it proves that letting children copy words by hand before the teacher teaches the children to read helps and enhances the reading level of struggling reader pupils.

Handwriting boosts memory and helps youngsters retain new ideas (My Teaching Library, 2024). Furthermore, as toddlers learn to synchronize their hand and eye movements, handwriting improves fine motor abilities for non-writing activities and promotes the development of visual-motor integration and coordination (Your Therapy Source & Your Therapy Source, 2023). This skill is essential for a variety of different learning domains, including reading, sports, artistic pursuits, and self-care duties (Hu, 2024).

CONCLUSION AND RECOMMENDATIONS

This study concludes and recommends that teachers use handwriting as a strategy by having children copy words or letters by hand before teaching them to read, as this approach improves reading skills and supports those who struggle with reading. When teachers adopted the method of having kids copy words by hand before teaching them to read, pupils' reading proficiency increased. When words are copied by hand before being taught to read, pupils' reading levels have significantly increased. Handwriting is a link between early reading development and basic reading and spelling ability (Swerling, 2021).

Additionally, copying words by hand is intended to help the unconscious brain assimilate vocabulary, spelling, and sentence construction, which will support children in learning to read (Luo & Xiao, 2020). As digital devices become more common in classrooms, the researchers believe that handwriting should remain an important feature of early literacy learning.

Handwriting notes in class may appear to be an anachronism in an era where smartphones and other digital technologies dominate many aspects of learning in schools and universities. However, a consistent stream of data suggests that classic note-taking methods—with pen and paper—are still the greatest way to learn, particularly for young children.

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