

Reviving Penmanship and Reading Fluency: A Quasi-experimental Study on the Effectiveness of the SCRIPT Program

(Supporting Cursive Reading and Improving Penmanship Training)

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Article History	Abstract
Original Research Article	<i>This study employed a quasi-experimental research design to determine the effectiveness of the SCRIPT (Supporting Cursive Reading and Improving Penmanship Training) Program in enhancing the cursive reading and writing skills of Grade 7 students. Conducted in a public junior high school in Biñan City, Laguna, the study involved 46 participants enrolled during the Academic Year 2024–2025, equally divided into treatment (n = 23) and comparison (n = 23) groups. Adjustments were made to address potential attrition, maintaining a 5% margin of error at a 95% confidence level. Expert-validated rubrics were utilized for assessing both cursive reading and writing, with inter-rater reliability established through collaboration with college faculty members teaching English and Filipino general education courses. Data collection consisted of two phases: a pre-test administered to establish baseline skill levels and a post-test conducted after the three-month implementation of the SCRIPT Program. Quantitative data were analyzed using descriptive statistics to determine performance levels and inferential statistics, including independent and paired sample t-tests, to evaluate the significance of observed differences. All ethical standards were highly observed. Findings revealed a significant improvement in both cursive reading and writing skills among students in the treatment group compared to the comparison group, indicating that the SCRIPT Program effectively enhanced students' penmanship and reading fluency in cursive literacy. The results affirm the value of structured and guided handwriting instruction in developing foundational literacy skills. Based on these outcomes, the study recommends enhancing the SCRIPT Program through extended exposure to activities, integration of advanced handwriting and reading tasks, and continuous capacity-building for teachers to sustain skill development and student engagement.</i> Keywords: Effectiveness, Junior High School, Quasi-Experimental Study, SCRIPT Program.
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Copyright © 2025 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited. Citation: John Robby O. Robinos, Melanie R. Espinas, Anna Mae G. Bayomo, Aliza Grace G. Ceferidad, Justine Lee R. Lacandola, Era Hope D. Molina, Kimberly Kate M. Moyano, Althea A. Revilla, Annabelle Verba Molina. (2025). Reviving Penmanship and Reading Fluency: A Quasi-experimental Study on the Effectiveness of the SCRIPT Program. UKR Journal of Arts, Humanities and Social Sciences (UKRJAHS), Volume 1(9), 20-27.	

Introduction

Cursive handwriting has drastically declined in educational settings over recent decades. This study argues for the revival of cursive writing instruction in the Philippine educational system, emphasizing its significance in fostering essential skills, preserving cultural heritage, and cultivating a deeper appreciation for written language (Fox, 2018). The distinct cognitive and developmental advantages of handwriting, particularly in letter formation and motor coordination, are now at risk of disappearing (van der Meer et al., 2020). Research has shown that cursive

writing supports better fine motor skills, enhances literacy, and stimulates brain development—all of which are crucial for holistic learning.

Handwriting remains a fundamental means of communication and a vital tool for encoding and retaining information. It enhances memory retention and aids comprehension (Mariwa, 2021). There are two main types of handwriting: manuscript and cursive. Historically, the Ancient Romans were among the first to use cursive letters through *Scriptura Continua*, valued for its speed and

efficiency (Stauder, 2022). In the 8th century, Charlemagne standardized *Carolingian Minuscule*, introducing lowercase letters and spacing for improved legibility. Across many nations, cursive writing became a required part of formal education, yet in recent years, instruction has steadily declined, leaving many students at a disadvantage (Mariwa, 2021). There is increasing evidence that handwriting proficiency significantly impacts academic performance (Semeraro et al., 2019). Students who lack basic handwriting skills often struggle with tasks that require written communication (Finlayson & McCrudden, 2019). To address these concerns, it is necessary to assess students' current cursive abilities, identify gaps, and implement targeted interventions. Heubeck (2023) suggests potential solutions such as reintroducing cursive writing in school curricula, providing additional support to students with handwriting difficulties, and offering cursive workshops to learners who have not developed these skills.

Failure to learn cursive writing may result in several disadvantages. These include limited literacy skills—particularly difficulty reading historical texts and handwritten documents (Mariwa, 2021)—and practical challenges such as the inability to produce legible signatures for legal identification. Moreover, not learning cursive can weaken intergenerational communication, as younger individuals may struggle to read letters or documents written by older generations. Cognitively, cursive writing enhances fine motor coordination and memory retention; without it, students may lose these developmental benefits (Spicer, 2023). The lack of cursive proficiency can also reduce writing fluency, hinder note-taking speed (Geller, 2018), and create inequities in academic performance and standardized testing (Doug, 2018). Most existing studies on cursive writing are cross-sectional, which limits the understanding of its long-term impact on cognitive development and academic achievement. For instance, Spicer (2023) and Zuhaida & Kinesti (2023) provide valuable insights but fail to explore sustained benefits over time. Thus, longitudinal or experimental approaches are necessary to determine the effectiveness of cursive instruction as an intervention strategy.

This study is anchored on Jean Piaget's Cognitive Development Theory and Lev Vygotsky's Zone of Proximal Development (ZPD). Piaget emphasizes that children actively construct knowledge through interaction with their environment, with critical transitions from the pre-operational to concrete operational stages—typically between ages six and seven—marking the emergence of abstract reasoning (Spicer, 2003; Bandalo, 2020). Handwriting supports these cognitive transitions by fostering fine motor and perceptual integration, serving as

both an academic foundation and an early diagnostic tool for developmental readiness (Oakley, 2004; Accardo et al., 2013). Vygotsky's ZPD theory, on the other hand, posits that optimal learning occurs when students receive appropriate guidance or scaffolding to bridge the gap between what they can do independently and what they can achieve with assistance. This framework highlights that the learning process is dynamic, and effective instruction—such as guided cursive training—can accelerate the acquisition of new skills. Applying ZPD to cursive writing instruction emphasizes the importance of teacher support, peer modeling, and interactive learning environments for developing students' handwriting proficiency. Equally important is the concept of visual-motor coordination (VMC), which links fine motor control with cognitive processing. VMC enhances finger dexterity, sequencing, and accuracy—skills fundamental to cursive writing and overall academic performance (Carlson et al., 2013). These interactions reinforce learning retention and serve as indicators of cognitive and motor development.

This research addresses the current lack of systematic evaluation of cursive writing instruction by examining the potential benefits of the Supporting Cursive Reading and Improving Penmanship Training (SCRIPT) program. The SCRIPT program seeks to revitalize handwriting and reading skills by providing a structured approach to improving both cursive abilities among students. Through this quasi-experimental design, the study will assess the program's effectiveness in enhancing cursive proficiency and determine whether targeted interventions can yield measurable improvements in skill, fluency, and legibility.

Specifically, the study aims to:

1. Identify the level of cursive reading skills of students in the treatment and comparison groups before and after the implementation of the SCRIPT program;
2. Determine the level of cursive writing skills of students in the treatment and comparison groups before and after the implementation of the SCRIPT program; and
3. Evaluate the overall effectiveness of the SCRIPT program in enhancing students' cursive reading and writing skills.

Methodology

Research Design

This study employed a quasi-experimental research design to determine the effectiveness of the SCRIPT (Supporting Cursive Reading and Improving Penmanship Training) Program in enhancing the cursive reading and writing skills of Grade 7 students. A quasi-experimental design was deemed appropriate since random assignment

was not feasible in the school setting. Instead, intact classes were used to form the treatment and comparison groups. According to Campbell and Stanley (1963), quasi-experimental designs are effective for evaluating interventions in real-world contexts where randomization cannot be ethically or practically implemented. These designs allow researchers to infer causal relationships by comparing pre-test and post-test outcomes across non-randomized groups (Miller et al., 2020).

This design aligns with the study's theoretical foundation drawn from Piaget's Cognitive Development Theory and Vygotsky's Zone of Proximal Development (ZPD). Piaget emphasizes that students at the concrete operational stage (around ages 6–12) develop logical thinking through structured experiences, while Vygotsky underscores the role of guided instruction and scaffolding in bridging learning gaps. The SCRIPT program, therefore, functions as a structured scaffold that supports students' gradual mastery of cursive reading and writing through guided practice, peer interaction, and feedback.

Research Locale

The study was conducted in a public junior high school in Biñan City, Laguna, established in 2002. The school serves a diverse student population of approximately 1,417 learners enrolled in both junior and senior high school programs. It was selected as the research site due to its commitment to quality education, accessibility to various learning resources, and openness to implementing instructional innovations such as the SCRIPT Program. The learning environment provided an ideal context for applying intervention-based instructional strategies within real classroom conditions.

Participants of the Study

The participants of this study consisted of 46 Grade 7 students enrolled during the Academic Year 2024–2025. Two intact groups were utilized: one served as the treatment group ($n = 23$) and the other as the comparison group ($n = 23$). Adjustments were made to account for potential attrition or incomplete post-test participation, maintaining a 5% margin of error at a 95% confidence level.

The treatment group participated in the SCRIPT intervention, while the comparison group continued with the regular handwriting instruction prescribed by the school's curriculum. This setup allowed the researchers to compare differences in performance and progress between those exposed to the intervention and those who were not.

Research Instruments

To assess the effectiveness of the SCRIPT Program, expert-validated rubrics were utilized for both cursive reading and cursive writing.

- Cursive Writing Rubric: Evaluated three major criteria – letter formation, spacing and alignment, and fluency and legibility.
- Cursive Reading Rubric: Assessed five criteria - fluency accuracy, expression, reading strategies and comprehension.

Each rubric employed a 30-point scale, with descriptive ratings from Needs Improvement (below 14 points) to Excellent (26–30 points). Separate rubrics were used to ensure independent and reliable evaluation of each skill domain. The instruments underwent content validation by experts in education, linguistics, and penmanship instruction to ensure alignment with the learning objectives, curricular standards, and the cognitive-motor framework of the study. Inter-rater reliability was established with the assistance of college faculty members teaching English and Filipino general education courses. Minor revisions were made following expert feedback to improve clarity, consistency, and measurement validity.

Data Gathering Procedure

Prior to data collection, the researchers secured the necessary approvals and endorsements from the Campus Director, the University Research Ethics Committee, and the School Principal of the participating institution. A parent orientation was conducted to explain the study's objectives, procedures, and ethical safeguards. Written informed consent was obtained from both parents and student participants before participation.

Data collection was carried out in two phases:

1. Pre-Test Phase – Administered to both the treatment and comparison groups to establish baseline levels of cursive reading and writing skills;
2. Post-Test Phase – Conducted after the completion of the SCRIPT Program to measure changes and determine the effectiveness of the intervention.

All assessments were rated by two independent groups of evaluators using validated rubrics. Discrepancies between raters were resolved through discussion and consensus to ensure scoring reliability. Data from the pre- and post-tests were then compared to determine learning gains in both groups.

Data Analysis

Quantitative data were analyzed using descriptive statistics (mean scores, and standard deviations) to determine students' performance levels before and after the intervention. Inferential statistics, particularly independent t-tests and paired sample t-tests, were utilized to examine:

1. The difference between pre-test and post-test performance within each group; and
2. The significant difference in gain scores between the treatment and comparison groups.

These statistical analyses provided empirical evidence regarding the effectiveness of the SCRIPT Program in improving students' cursive reading and writing skills.

Ethical Considerations

The study strictly adhered to the ethical protocols of the University Research Ethics Committee and the provisions of the Data Privacy Act of 2012 (DPA 2012). Participants and their parents were fully informed of the study's purpose, procedures, voluntary nature, and their right to withdraw at any time without penalty. All collected data were kept confidential, anonymized, and reported only in aggregate form to protect participants' identities. The intervention posed minimal risk and was designed to enhance students' educational experience in alignment with ethical standards for educational research.

Results and Discussions

The SCRIPT Program was implemented over a period of three months following the administration of the pre-test. The intervention consisted of **structured, scaffolded training and enrichment activities** anchored on **cognitive and sociocultural learning theories**, particularly those emphasizing guided practice and active engagement in skill development. The program's activities included:

1. Focused training on cursive writing techniques, including letter strokes, linking patterns, spacing, and alignment;
2. Guided practice sessions in both cursive reading and writing to strengthen the connection between visual recognition and motor execution;
3. Reading comprehension activities using texts written in cursive to reinforce decoding fluency and text understanding; and

4. Performance-based tasks that required students to produce legible and fluent cursive outputs, as well as read cursive passages aloud to demonstrate fluency and comprehension.

Each session was conducted once a week (every Friday) for approximately 60–90 minutes and emphasized **progressive mastery, consistent feedback, and reflective practice**. Attendance was closely monitored, and individual progress was recorded after every session. The structured, repetitive, and feedback-driven nature of these activities was grounded in **Vygotsky's (1978) concept of scaffolding**, which posits that learning is most effective when students receive guided support within their **Zone of Proximal Development (ZPD)**. Through gradual withdrawal of assistance, learners internalize both the cognitive and motor components of writing and reading, leading to independent performance and sustained fluency. This instructional framework aligns with **Cognitive Development Theory**, which views handwriting and reading as interrelated processes involving attention, memory, and fine-motor coordination. The SCRIPT Program's structured sequence of tasks—from demonstration to independent practice—enabled students to transfer learned motor patterns to reading comprehension, consistent with the findings of **Vinci-Booher et al. (2021)** and **Sugate et al. (2023)**, who underscored the reciprocal relationship between handwriting practice and reading proficiency.

Meanwhile, the **comparison group** continued with their standard penmanship instruction following the regular school curriculum and did not participate in any SCRIPT-based activities. For data collection, **writing skills** in both the pre-test and post-test were rated by three invited expert evaluators using validated rubrics, while **reading skills** were assessed by the researchers with the assistance of the class advisers to ensure reliability and triangulation of data sources. Two students were excluded from the final analysis due to their inability to take the post-test because of health-related concerns, resulting in a total of **22 participants per group**.

Cursive Writing Skills before and after SCRIPT Program Implementation

Table 1. Level of cursive writing skills

Groups	Before		Interpretation	After		Interpretation
	Mean	SD		Mean	SD	
Treatment	13.8	4.73	Needs Improvement	18.4	4.73	Developing
Comparison	16.0	2.95	Developing	17.3	2.38	Developing

Legend: Below 14 = Needs Improvement; 15-19 = Developing; 20 – 25 = Proficient; and 26 – 30 = Excellent

Note: SD – Standard Deviation. n = 22.

The data in Table 1 reveal that students in the treatment group who participated in the SCRIPT program demonstrated notable improvement in their cursive writing skills—from “needs improvement” (M = 13.8, SD = 4.73) in the pre-test to “developing” (M = 18.4, SD = 4.73) in the post-test. In contrast, students in the comparison group remained at the “developing” level both before (M = 16.0, SD = 2.95) and after (M = 17.3, SD = 2.38) the implementation of the program. This suggests that the intervention had a meaningful effect on students’ handwriting development, particularly in enhancing their letter formation, spacing, and overall legibility.

Using the rubric criteria, post-intervention results imply that students in the treatment group were able to form letters correctly but still displayed some inconsistencies in spacing and alignment that affected readability. Although their writing occasionally appeared irregular, the gains reflected a growing mastery of fine-motor control and greater awareness of writing conventions. Meanwhile, the comparison group’s cursive writing performance showed only minimal improvement, indicating that traditional or unstructured practice alone may not be sufficient to produce substantial skill gains.

These findings highlight the effectiveness of **structured, motor-based handwriting instruction** in strengthening transcription and fine-motor coordination among learners. Lopez-Escribano et al. (2022) reported similar outcomes, demonstrating that explicit handwriting interventions significantly improved fluency, legibility, and text quality in both elementary and middle-grade learners. Semeraro et al. (2019) likewise emphasized that consistent cursive training not only enhances writing development but also supports reading fluency—reinforcing the interconnectedness of motor and cognitive literacy processes. The one-level increase observed in the treatment group—from “needs improvement” to “developing”—though modest, still underscores the positive influence of the SCRIPT program in advancing students’ foundational writing competencies.

Consistent with **Graham et al. (2021)**, handwriting fluency contributes directly to improved written expression and compositional quality by freeing cognitive resources for idea generation and organization. Thus, even incremental progress in cursive proficiency can have compounding effects on overall literacy and academic performance.

Cursive Reading Skills before and after SCRIPT program Implementation

Table 2. Level of cursive reading skills

Groups	Before		Interpretation	After		Interpretation
	Mean	SD		Mean	SD	
Treatment	18.8	1.47	Developing	21.4	1.05	Proficient
Comparison	19.6	1.74	Proficient	20.0	1.13	Proficient

Legend: Below 14 = Needs Improvement; 15-19 = Developing; 20 – 25 = Proficient; and 26 – 30 = Excellent

Note: SD – Standard Deviation. n = 22.

Results indicated that students in the comparison group consistently remained at the “proficient” level in cursive reading skills both before and after the intervention. Meanwhile, students in the treatment group who participated in the SCRIPT program showed a marked improvement—from “developing” (M = 18.8, SD = 1.47) in the pre-test to “proficient” (M = 21.4, SD = 1.05) in the post-test. This represents an overall mean gain of 2.6 points, suggesting that the intervention produced meaningful progress in students’ cursive reading fluency and comprehension. The results suggest that after the program, students were able to read with smoother fluency and more accurate pronunciation, exhibited fewer errors, demonstrated improved phrasing and intonation, and showed better comprehension with only minor misunderstandings.

This finding aligns with Vinci-Booher et al. (2021), who emphasized that handwriting-based tasks enhance semantic processing through deeper motor-perceptual integration, which consequently strengthens reading abilities. Similarly, Sugate et al. (2023) explained that early gains in literacy skills—particularly writing—serve as precursors to reading proficiency. When learners engage in writing-related activities first, they form stronger orthographic and phonological connections that make reading more intuitive and meaningful. Hence, the SCRIPT program’s handwriting-focused approach may have provided the cognitive and motor foundations necessary for the development of fluent cursive reading.

Furthermore, Robinos et al. (2020) underscored that targeted, scaffolded interventions—especially those that integrate cognitive and psychomotor learning—significantly improve students’ literacy outcomes. This

supports the observed results of the SCRIPT program, wherein structured handwriting and reading tasks, guided feedback, and progressive skill-building led to notable gains in cursive reading proficiency.

Effectiveness of the SCRIPT Program

Table 3. Results of Independent T-test of Significant Difference in Gain Scores between the Two Groups

Skills	Statistic	p-value	Interpretation
Cursive Writing	– 4.49	< 0.001	<i>Significant</i>
Cursive Reading	– 5.41	< 0.001	<i>Significant</i>

Note: The result is significant at $p < 0.05$, degrees of freedom = 42; $n = 44$

Results showed that there were **significant differences in the gain scores** between the treatment and comparison groups in both cursive writing ($t = -4.49$, $p < 0.001$) and cursive reading ($t = -5.41$, $p < 0.001$). This implies that students who participated in the SCRIPT program demonstrated **substantially higher gains** in their handwriting and reading fluency compared to those who received only traditional instruction. Moreover, this indicates that the SCRIPT program effectively addressed learners' skill gaps by providing **structured, repetitive, and scaffolded handwriting and reading tasks** that promoted both fine-motor precision and linguistic decoding skills.

The results affirm the **effectiveness of the SCRIPT program** as a targeted intervention designed to enhance students' transcription and literacy abilities. These findings are consistent with **Hurschler Lichtsteiner et al. (2018)**, who reported that structured handwriting instruction led to significant improvements in fluency, spelling, and overall text quality among students. Similarly, **Datchuk, Rouse, and Young (2022)** highlighted that transcription-focused writing programs significantly enhanced handwriting fluency and written expression, especially among struggling learners.

Table 4. Results of Paired T-test of Significant Difference Comparing Levels between Each Group

Groups	Skills	Statistic	p-value	Interpretation
Treatment	Cursive Writing	– 7.03	< 0.001	<i>Significant</i>
	Cursive Reading	– 8.10	< 0.001	<i>Significant</i>
Comparison	Cursive Writing	– 3.58	0.002	<i>Significant</i>
	Cursive Reading	– 1.40	0.176	Not Significant

Note: The result is significant at $p < 0.05$, degrees of freedom = 21; $n = 22$

Findings in Table 4 revealed that among the **treatment group**, there were significant improvements in both cursive writing ($t = -7.03$, $p < 0.001$) and cursive reading ($t = -8.10$, $p < 0.001$) after the implementation of the SCRIPT program. This demonstrates the program's **positive and measurable impact** on students' literacy development. Meanwhile, the **comparison group** also showed a significant difference in cursive writing ($t = -3.58$, $p = 0.002$) but **no significant improvement in cursive reading** ($t = -1.40$, $p = 0.176$). This suggests that while students in the comparison group benefited from regular classroom instruction, their progress was limited without the structured and intensive practice provided by the SCRIPT intervention.

The findings validate that **SCRIPT** effectively enhanced both the **productive (writing)** and **receptive (reading)** literacy skills of learners by reinforcing the neural and cognitive pathways between motor movement and language comprehension. As **Sharon et al. (2025)** noted, interventions designed to improve specific academic skills often yield **transfer effects**—enhancing not only the targeted ability but also the learners' overall academic performance and motivation. Similarly, **Graham et al. (2021)** emphasized that handwriting fluency contributes to more efficient composition and reading comprehension because it frees cognitive resources for higher-order thinking processes.

From a theoretical perspective, the results resonate with **Vygotsky's Zone of Proximal Development (ZPD)**,

where guided support and feedback allow learners to achieve mastery levels that would be difficult to reach independently. The SCRIPT program served as that scaffold—offering structured, step-by-step instruction that enabled students to internalize both motor and linguistic patterns essential for fluent writing and reading.

As **agents of change**, teachers should, as emphasized by Robinos et al. (2022), continuously adopt **transformative instructional innovations** that nurture holistic growth—integrating cognitive, psychomotor, and affective learning dimensions. By implementing well-designed programs like SCRIPT, educators not only enhance skill proficiency but also foster confidence, discipline, and motivation—traits that contribute to lifelong learning and academic success.

Conclusion and Recommendations

The findings of the study revealed that the **SCRIPT (Supporting Cursive Reading and Improving Penmanship Training)** Program was effective in enhancing students' cursive reading and writing skills. Results showed that students in the treatment group demonstrated notable progress, moving from *developing* to *proficient* in reading and from *needs improvement* to *developing* in writing after the program's implementation. These improvements highlight the positive impact of structured, scaffolded, and feedback-oriented instruction anchored in **Vygotsky's Zone of Proximal Development (ZPD)** and **Cognitive Development Theory**, which emphasize learning through guided practice within a supportive environment. The statistical results further confirmed the program's effectiveness, as the treatment group achieved significantly higher gains in both cursive reading and writing compared to the comparison group, demonstrating that structured handwriting training can enhance both motor fluency and literacy comprehension.

In light of these findings, it is recommended to **enhance the SCRIPT program** by incorporating differentiated and interactive activities that address diverse learning needs; to **extend its implementation period** to allow for longer exposure and skill mastery; and to **integrate the principles of SCRIPT into the regular language and writing curriculum**, ensuring continuity and reinforcement of cursive literacy skills across grade levels.

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