Pupils' Cursive Handwriting in Cervantes District: Inputs to the Development of the Sequential Cursive Handwriting Tool

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INTRODUCTION

Background of the Study

Cursive handwriting is a style of writing in which letters are connected in a continuous and flowing manner to improve writing speed, efficiency, and fluency. This skill plays an important role in early education by helping develop fine motor skills, cognitive abilities, and memory retention (Marano *et al.*, 2025). When learners practice the continuous strokes of cursive writing, they improve hand–eye coordination, spatial awareness, and neural connections in the brain (Askvik *et al.*, 2020). Regular practice of cursive writing also enhances spelling accuracy and reading fluency (Downing & Caravolas, 2023). Brain studies further reveal that handwriting activates areas of the brain responsible for thinking, language, and working memory more effectively than typing (Van der Weel & van der Meer, 2023). Because of these benefits, cursive handwriting remains an important foundational skill that supports literacy development, discipline, and creativity among learners (Graham & Harris, 2024).

The importance of cursive handwriting is further reflected in global educational priorities, particularly Sustainable Development Goal (SDG) 4: Quality Education, which emphasizes ensuring that all children complete free, equitable, and quality primary and secondary education with relevant and effective learning outcomes (United Nations, 2015). As a foundational literacy skill, cursive handwriting contributes to these learning outcomes by strengthening neural pathways, improving reading fluency, and supporting written expression—capabilities essential for quality education. According to UNESCO (2020), foundational literacy skills such as handwriting remain crucial for inclusive and equitable education. Moreover, in communities where access to digital technology is limited, handwriting continues to serve as a practical and inclusive form of communication (World Bank, 2022). Wiley and Rapp (2021) also noted that handwriting often represents a child's first meaningful interaction with literacy, beginning with writing their name and gradually developing into a tool for academic learning and personal expression.

Several studies highlight the benefits of handwriting instruction in improving learners' writing skills. For instance, kinesthetic handwriting interventions have demonstrated improvements in legibility, writing speed, and personal satisfaction among students in Grades 4 to 6 (Graham & Harris, 2024). Similarly, Case-Smith and Holland (2023) emphasized the importance of early intervention using various tools and techniques such as colored paper, chalk, crayons, stencils, and finger painting to make handwriting instruction more engaging and motivating for young learners. Recent research from Indonesia also found that regular practice of cursive writing leads to improved fluency and coherence in written composition (Rochmiati & Ardiyatno, 2023). These results suggest that consistent handwriting instruction can positively influence learners' literacy development.

Despite these benefits, the teaching of cursive handwriting has declined in many educational systems due to curriculum changes and the growing integration of digital technology in classrooms. In 2010, the Common Core State Standards in the United States made cursive instruction optional, which sparked ongoing debates among educators and researchers (Education Week, 2024). However, recent neuroscientific results have prompted a policy reconsideration. More than half of the states in the United States now require cursive instruction, a significant increase from only 14 states a decade ago (USA Today, 2026). Between 2023 and 2024, states such as California, New Hampshire, Kentucky, and Iowa enacted policies mandating cursive instruction, with

Pennsylvania and New Jersey following in early 2026 (MyCursive.com, 2025; USA Today, 2026). This renewed emphasis reflects growing recognition that handwriting supports memory, cognitive processing, and learning development. Nevertheless, cursive instruction remains marginalized in many schools, with teachers reporting challenges such as limited instructional time, insufficient training, and a lack of appropriate teaching materials (Graham *et al.*, 2022). In addition, the increasing focus on digital literacy has contributed to the reduced emphasis on traditional handwriting instruction (Saavedra & Barredo, 2020).

In the Philippine context, several initiatives have been implemented to strengthen handwriting skills among learners. One example is the SeWriMa (Self-Made Writing Materials) program, which encourages students to create their own writing materials while practicing cursive writing. The program has shown positive results in improving handwriting proficiency, increasing learner confidence, and promoting an engaging learning environment (Revelo, 2022). These initiatives demonstrate the continued recognition of handwriting as an important component of literacy development within the Philippine educational system.

Traditionally, cursive handwriting has been integrated into English and Filipino subjects, particularly through written composition and penmanship activities. Under the K to 12 Basic Education Curriculum, cursive writing was explicitly introduced in Grades 2 and 3 to develop both writing composition and handwriting skills (Department of Education, 2016). In addition, DepEd Order No. 39, s. 2012 provides policy guidelines on addressing learning gaps and implementing reading and writing programs in secondary schools, emphasizing the importance of strengthening foundational literacy skills. Furthermore, Republic Act No. 10533 supports the development of literacy and communication competencies among learners, which implicitly include handwriting skills as part of written language development.

However, with the implementation of the MATATAG Curriculum, educational priorities have shifted toward strengthening foundational skills such as reading, numeracy, and character development. As a result, cursive handwriting has received less explicit emphasis in current English curriculum guides, leaving some educators uncertain about its continued role in classroom instruction (Department of Education, 2023). This shift creates a gap between the previous curriculum, which explicitly emphasized cursive handwriting, and the present curriculum where its role is less clearly defined.

In the Cervantes District of Ilocos Sur, where traditional handwriting has long been part of classroom instruction, this national curriculum shift has created several local challenges. The absence of clear instructional guidelines and consistent assessment standards has led to variations in how cursive handwriting is taught across schools. Teachers in the district have reported a lack of clarity regarding expectations for cursive instruction, as well as limited access to instructional materials specifically designed for handwriting development. As a result, the level of proficiency in cursive handwriting among learners varies significantly. This local situation highlights the need to examine how curriculum changes influence handwriting instruction and learner outcomes in actual classroom settings.

Despite these international and national discussions on handwriting instruction, empirical evidence describing how cursive handwriting is currently practiced in Philippine elementary classrooms remains limited. Although numerous studies have established the cognitive and literacy benefits of cursive handwriting (Askvik *et al.*, 2020; Van der Weel & van der Meer, 2023; Marano *et al.*, 2025), and policy documents have outlined literacy goals (Department of Education, 2016; Department of Education, 2023), important gaps remain in the literature. Existing studies largely focus on the theoretical and cognitive benefits of handwriting and on curriculum policy discussions, but limited empirical evidence exists regarding how cursive handwriting instruction is currently implemented in Philippine elementary classrooms, particularly in rural districts. Moreover, there remains insufficient knowledge about the relationship between teachers' instructional practices and learners' actual level of cursive handwriting proficiency, especially in the context of recent curriculum reforms such as the MATATAG Curriculum. Consequently, it remains unclear whether the documented benefits of cursive handwriting are reflected in real classroom practices and learner outcomes.

To address these gaps, the present study investigated the current state of cursive handwriting instruction among Grade VI learners in the Cervantes District of Ilocos Sur. Specifically, it examined the level of learners' cursive handwriting skills, the importance teachers assign to cursive writing, and the extent to which teachers require

cursive handwriting in classroom activities. In addition, the study explored the capabilities and constraints experienced by teacher advisers in implementing cursive handwriting instruction. The results of this research are expected to provide empirical evidence that can guide teachers, school leaders, and education policymakers in improving handwriting instruction and supporting learners' literacy development.

Moreover, this study served as a basis for recommendations to enhance cursive handwriting instruction and raise awareness among educational stakeholders of the continuing importance of handwriting as a foundational literacy skill, even amid evolving curricula and increasing digitalization in education.

THEORETICAL FRAMEWORK

This study is anchored on key educational and cognitive learning theories, particularly those of Jean Piaget and Lev Vygotsky, which provide a strong foundation for examining cursive handwriting instruction and its impact on learners' academic development. These theories explain how learners acquire writing skills, how instructional practices influence learning outcomes, and how teachers' professional characteristics shape handwriting instruction. Together, they guide the analysis of learners' cursive handwriting skills, teachers' perceptions of its importance, and the factors influencing its implementation in the Cervantes District.

Progressivism serves as the study's philosophical foundation, viewing education as dynamic and responsive to societal needs, research, and policy developments. It emphasizes the role of teachers as facilitators who guide learners through meaningful and experience-based activities. In the context of cursive handwriting, this perspective supports flexible, learner-centered instruction that aligns with students' developmental levels and encourages active engagement in writing tasks. It also helps explain how teaching practices and expectations influence the development and use of cursive writing in the classroom.

Supporting this, Bruner's Theory of Learning explains the progression of skill development through three stages: acquisition, transformation, and evaluation. Learners first acquire basic cursive mechanics, then apply these skills in academic tasks such as note-taking and composition, and finally evaluate their mastery through performance. This framework highlights cursive handwriting as both a cognitive and motor skill that develops through continuous application and assessment.

From a constructivist perspective, Piaget's theory emphasizes that learners actively construct knowledge through experience, reflection, and interaction. In handwriting instruction, this means that learners develop proficiency through repeated practice, feedback, and meaningful use of writing in real-life contexts. This theory supports the examination of learners' handwriting levels and underscores the importance of appropriate instructional experiences in skill development.

In addition, Cognitive Load Theory (CLT) explains how the limitations of working memory affect learning. When learners achieve fluency in cursive writing, they reduce the mental effort required for letter formation, allowing them to focus on higher-level writing processes such as idea generation and organization. Similarly, Dual Coding Theory (DCT) suggests that learning is enhanced when verbal and visual processes work together. Since handwriting integrates language and visual-motor coordination, it strengthens memory and supports overall literacy development.

Furthermore, Vygotsky's Socio-Cultural Theory highlights the essential role of social interaction and guided learning. Teachers support learners through scaffolding, modeling, and feedback, enabling them to gradually improve their handwriting skills. This theory also emphasizes that teachers' professional characteristics—such as training, experience, and exposure to development opportunities—significantly influence instructional practices and effectiveness.

Finally, Situated Learning Theory underscores the importance of learning in authentic contexts. It explains how learners develop skills through meaningful participation in real classroom tasks, while teachers' experiences and professional backgrounds shape how instruction is delivered. This perspective supports the analysis of teachers' capabilities and constraints in implementing cursive handwriting instruction. These theories provide a comprehensive and integrated framework for the study. Progressivism and Constructivism emphasize learner-

centered and experiential learning; Bruner explains the progression of skill acquisition; CLT and DCT highlight the cognitive processes involved in handwriting; and Vygotsky's and Situated Learning theories emphasize the critical role of teachers and context in instruction.

Overall, this theoretical framework supports the objectives of the study by offering a clear conceptual basis for analyzing learners' cursive handwriting skills, teachers' perceptions of its importance, and the extent to which it is required in classroom instruction. It also guides the examination of the relationship between teacher practices and learner proficiency, as well as the factors that influence effective cursive handwriting instruction in the Cervantes District.

Research Paradigm

Paradigm of the study.

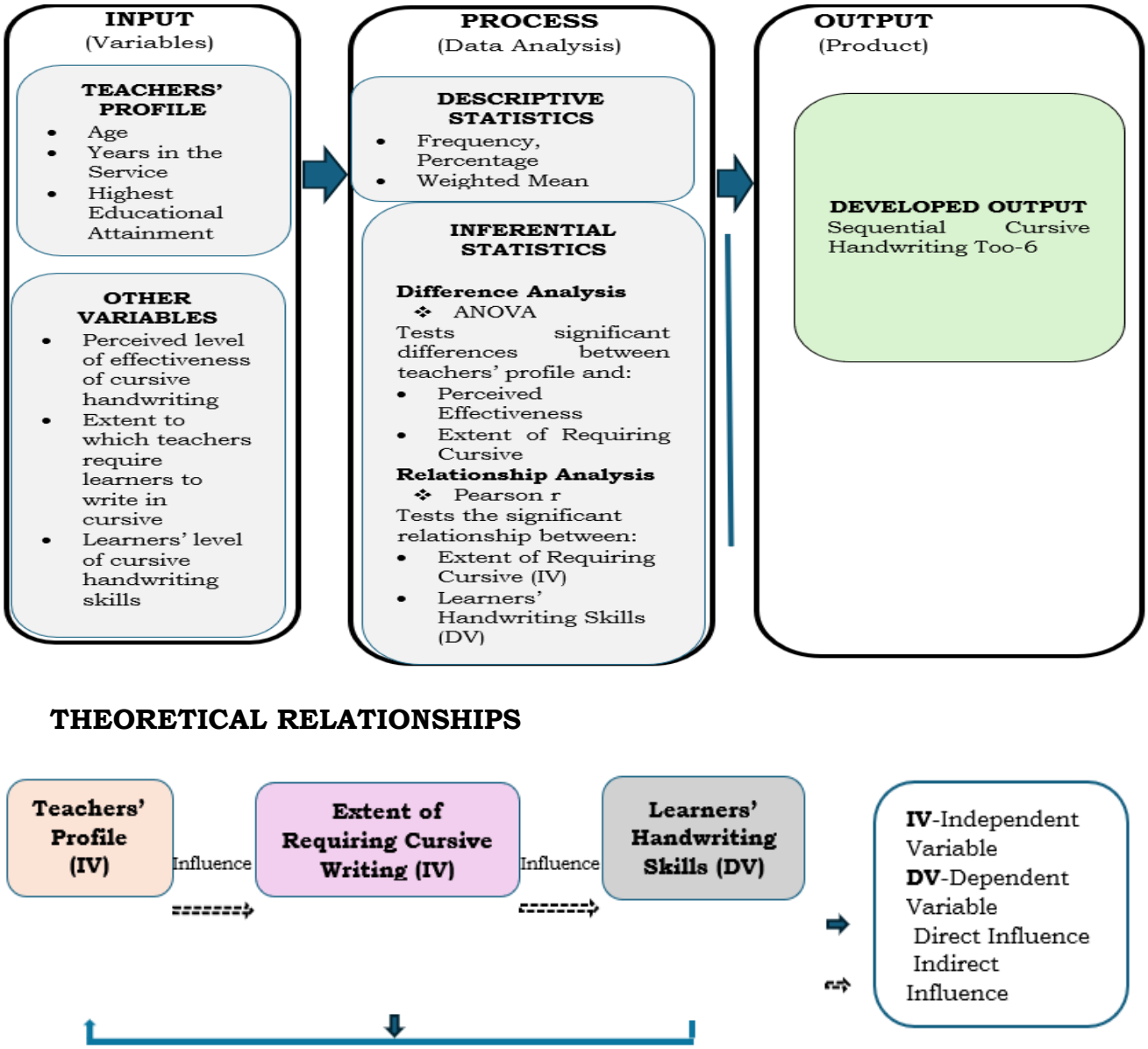


Figure 1. Research Paradigm

Figure 1 presents the research paradigm of the study, which is anchored on an Independent Variable–Dependent Variable (IV–DV) framework within an Input–Process–Output (IPO) model. The independent variable of the study is the teachers' profile, specifically in terms of age, years in service, and highest educational attainment.

The dependent variables include the perceived level of effectiveness of cursive handwriting, the extent to which teachers require learners to write in cursive, and the level of cursive handwriting skills of Grade 6 learners, particularly in terms of legibility, letter formation, spacing, line alignment, and size consistency.

The paradigm further illustrates the analysis of significant differences between the teachers' profile and their perceived level of effectiveness of cursive handwriting, as well as the extent to which they require learners to practice cursive writing. In addition, it examines the significant relationship between the extent of requiring cursive writing and the learners' level of cursive handwriting skills.

These relationships and differences provide a comprehensive understanding of how teachers' characteristics and instructional practices influence learners' handwriting development. The results of the study serve as the basis for the development of the Sequential Cursive Handwriting Tool–6, an instructional material designed to assist teachers in implementing effective strategies and to enhance the cursive handwriting skills of Grade 6 learners.

REVIEW OF RELATED LITERATURE

This study is grounded in a comprehensive review of related literature and studies relevant to cursive handwriting instruction. The literature includes empirical and theoretical studies, as well as policy documents. The review is organized into four main themes that directly reflect the research objectives: (1) Profile of Teachers, (2) Effectiveness of Cursive Handwriting Skills, (3) Teachers' Requirements for Learners to Write in Cursive, and (4) Handwriting Skills.

Profile of Teachers

The following studies and literature focus on the profile of teachers in terms of age, years in service, and highest educational attainment, and how these factors influence cursive handwriting instruction.

Age. Age refers to the chronological stage of teachers, which may influence their teaching approaches, adaptability to instructional methods, and preferences in delivering cursive handwriting instruction (Santos & Villanueva, 2021). The following are studies related to age:

Santos and Villanueva (2021) examined how teacher age influences instructional preferences in Philippine basic education. The results revealed that older teachers preferred traditional penmanship instruction, while younger teachers were more inclined to integrate digital tools in teaching. This suggests that age contributes to differences in instructional approaches that may affect the delivery of cursive handwriting instruction.

Lazo (2020) investigated early-career teachers in the Philippines and found that teachers aged 20–30 lacked confidence in teaching cursive writing despite being proficient in digital tools. This indicates a gap between technological skills and the ability to teach traditional handwriting. Such results highlight the need for support and training among younger teachers in cursive instruction.

Hsiang *et al.* (2020) explored mid-career teachers and found that those aged 31–40 were able to combine traditional and modern teaching approaches. This demonstrates flexibility in instructional practices among this group. It also suggests that mid-career teachers may be better positioned to balance different teaching strategies in cursive handwriting instruction.

Kim *et al.* (2024) studied veteran teachers and found that older teachers relied on their teaching experience to maintain consistent handwriting instruction practices in the classroom. Their experience allowed them to establish stable instructional routines. This implies that long-term practice contributes to the effective implementation of cursive handwriting instruction.

Askvik *et al.* (2020) found that effective handwriting instruction is not determined by age alone but by teacher competence and training. The study emphasized that instructional quality depends more on professional development than on demographic factors. This highlights the importance of enhancing teacher capability regardless of age.

Maurer *et al.* (2023) found that effective handwriting instruction requires explicit teaching strategies such as modeling and guided practice. These strategies help learners develop proper writing habits and fluency. The study underscores the importance of teacher knowledge and instructional skills in delivering cursive handwriting lessons.

Alves *et al.* (2024) reported that teachers who understand the cognitive and motor processes of writing are more effective in developing learners' handwriting skills. This understanding allows teachers to provide appropriate support during instruction. It shows that knowledge of writing processes plays a key role in improving learners' performance.

Learning Without Tears (2024) emphasized that combining digital and traditional strategies supports handwriting instruction. This approach provides multiple learning opportunities for students. It is particularly beneficial for younger teachers who are more inclined toward technology-based instruction.

Zaner-Bloser (2025) found that multimodal handwriting instruction improves learners' writing skills by strengthening muscle memory. The integration of different learning modes enhances skill retention. This suggests that varied instructional approaches can improve cursive handwriting outcomes.

Alghazo and Hassan (2021) found that teacher beliefs are influenced more by school culture than by age. The study showed that institutional practices shape instructional decisions. This indicates that the teaching of cursive handwriting is also affected by the school environment.

Darling-Hammond *et al.* (2020) reported that teachers tend to follow school policies in implementing literacy instruction. This suggests that instructional practices are guided by institutional expectations. It highlights the role of policy in shaping handwriting instruction.

NCES (2022) found that instructional practices are more influenced by school policies than by individual teacher characteristics. The results emphasize the importance of systemic factors in education. This indicates that cursive handwriting instruction is not solely dependent on teacher age but also on institutional guidelines.

The studies of Santos and Villanueva (2021), Lazo (2020), Hsiang *et al.* (2020), and Kim *et al.* (2024) show that age influences teaching preferences, with younger teachers favoring digital tools and older teachers emphasizing traditional handwriting instruction. These differences suggest that age contributes to variations in instructional approaches used in teaching cursive handwriting.

However, the studies of Askvik et al. (2020), Maurer *et al.* (2023), Alves et al. (2024), Alghazo and Hassan (2021), Darling-Hammond *et al.* (2020), and NCES (2022) agree that effective instruction depends more on teacher competence, professional training, and school policies rather than age alone. Additionally, Learning Without Tears (2024) and Zaner-Bloser (2025) highlight that the use of multimodal and combined instructional strategies enhances handwriting development regardless of the teacher's age. Despite these results, there is limited research in the Philippine context that examines how teacher age specifically affects cursive handwriting instruction and learners' handwriting skills, particularly in the Cervantes District.

Years in the Service. Years in service refer to the accumulated teaching experience that builds practical expertise, diagnostic capabilities, and instructional routines in cursive handwriting pedagogy (Limpo *et al.*, 2020). The following are studies related to teachers' years in the service:

Datchuk and Kubina (2020) examined novice teachers with 1–5 years of experience and found that although these teachers possessed strong theoretical knowledge from pre-service training, they lacked practical strategies for teaching cursive writing. This indicates a gap between theoretical preparation and actual classroom practice. As a result, novice teachers may struggle to effectively guide learners in developing handwriting skills. The study highlights the need for practical training and mentoring support for beginning teachers.

Limpo *et al.* (2024) found that teachers with 6–10 years of service demonstrated improved instructional confidence and a stronger ability to identify learners' writing difficulties. Their experience allowed them to apply

appropriate strategies based on classroom situations. This suggests that the middle years of teaching are critical for developing effective instructional practices. It also shows that experience enhances teachers' diagnostic and intervention skills in cursive handwriting.

Santangelo *et al.* (2023) reported that teachers with 11–15 years of experience developed established routines for integrating handwriting activities into literacy instruction. These routines contribute to more organized and consistent classroom practices. Learners benefit from structured instruction that supports gradual skill development. This implies that increased teaching experience leads to more systematic and effective handwriting instruction.

Gillespie Rouse *et al.* (2021) found that veteran teachers with 16 or more years of experience applied refined and evidence-based strategies in teaching handwriting. Their long-term exposure to classroom challenges enabled them to adjust instruction according to learners' needs. This enhances the quality and effectiveness of handwriting instruction. The results show that extensive experience strengthens teachers' instructional decision-making.

Scordella *et al.* (2022) revealed that experienced teachers possess technical competencies in diagnosing and correcting handwriting difficulties. These include identifying specific errors, providing structured practice, and implementing targeted interventions. Such skills enable teachers to support learners more effectively in improving handwriting performance. This highlights the importance of experience in developing specialized instructional abilities.

Tarrayo *et al.* (2022) observed that experienced teachers in Philippine public schools were more effective in guiding learners through complex handwriting tasks. This effectiveness was attributed to their repeated exposure to common learner difficulties. Through experience, teachers develop appropriate remediation strategies. This suggests that experience plays a significant role in improving handwriting instruction in local contexts.

Kelly (2020) found that teachers with long years of service may experience professional fatigue if continuous support is lacking. This may affect their motivation and instructional effectiveness over time. The study emphasizes that experience alone is not enough to sustain high-quality teaching. Continuous professional development is necessary to maintain and enhance instructional performance.

Kirschner and van Merriënboer (2024) found that experienced teachers develop "automated schemas" through repeated teaching practice. These schemas allow teachers to respond more efficiently to learners' needs during instruction. As a result, they can provide immediate and effective support. This shows that experience improves both efficiency and responsiveness in teaching handwriting.

Tirado-Morueta et al. (2023) found that veteran teachers help learners master handwriting skills through consistent practice and expert guidance. Their experience allows them to prevent the formation of incorrect writing habits. They also provide structured support that improves learners' performance. This indicates that experienced teachers play a crucial role in developing handwriting proficiency.

Santos and Villanueva (2021) found that teachers with 6–10 years of experience effectively combine traditional handwriting drills with interactive activities. This approach makes cursive instruction more engaging and relevant for learners. It also reflects teachers' ability to adapt to modern teaching methods. This suggests that mid-career teachers can balance traditional and innovative strategies in instruction.

Lee and Lape (2020) found that experienced teachers are skilled in breaking down complex cursive strokes into simpler and more manageable steps. This helps learners understand and follow the writing process more easily. It also improves the clarity of instruction. This highlights how experience enhances teachers' ability to simplify complex skills.

Vandermeulen *et al.* (2023) found that teachers with more than ten years of experience demonstrate stable instructional practices. This stability ensures consistency in teaching handwriting across lessons. Consistent

instruction supports learners' continuous development of writing skills. This indicates that experience contributes to reliability in teaching performance.

Puntambekar (2021) described experienced teachers as expert mentors who guide learners from basic tracing to independent writing. Their role supports the gradual development of handwriting skills. They provide appropriate scaffolding based on learners' needs. This emphasizes the mentoring function of experienced teachers in handwriting instruction.

König *et al.* (2024) found that teachers across all experience levels may reach a "teaching plateau" without continuous professional development. This means that experience alone does not guarantee improvement in instructional quality. Teachers need ongoing training to enhance their practices. This highlights the importance of combining experience with continuous learning.

The studies of Datchuk and Kubina (2020), Limpo et al. (2024), Santangelo et al. (2023), Gillespie Rouse et al. (2021), Scordella et al. (2022), Tarrayo et al. (2022), Lee and Lape (2020), Vandermeulen et al. (2023), Puntambekar (2021), and Tirado-Morueta et al. (2023) show that years in service significantly influence teachers' instructional competence, confidence, and consistency in teaching cursive handwriting. Teachers with more experience demonstrate stronger diagnostic abilities, structured instructional routines, and more effective teaching strategies, which contribute to improved learner outcomes.

However, the studies of Kelly (2020), Kirschner and van Merriënboer (2024), König et al. (2024), and Santos and Villanueva (2021) emphasize that experience alone is not sufficient, as continuous professional development is necessary to sustain and further improve instructional quality. These studies highlight that while experience enhances teaching expertise, ongoing training and support are essential to prevent stagnation and maintain effective instructional practices. Despite these results, there is limited research in the Philippine context that examines how years in service influence cursive handwriting instruction and learners' handwriting performance, particularly in the Cervantes District.

Highest Educational Attainment. Highest educational attainment refers to the formal academic credentials completed by teachers, ranging from bachelor's degrees to doctoral studies (Darling-Hammond *et al.*, 2020). The following are studies related to teachers' highest educational attainment:

Darling-Hammond *et al.* (2020) found that teachers with bachelor's degrees possess the necessary pedagogical knowledge for basic literacy instruction. However, they emphasized that advanced training is needed for curriculum design and instructional innovation. This suggests that while foundational education equips teachers with basic teaching skills, higher education enhances their ability to develop more effective instructional strategies. This is relevant to cursive handwriting instruction, as teaching approaches may improve with higher academic preparation.

OECD (2021) reported that teachers with master's degrees demonstrate more advanced skills in curriculum design and instructional planning compared to those with only bachelor's degrees. These teachers are better equipped to organize lessons and implement structured learning activities. This indicates that graduate education contributes to improved teaching quality. In the context of handwriting instruction, such skills can support more systematic and effective lesson delivery.

Harris and Jones (2022) found that teachers with doctoral degrees are more likely to engage in curriculum innovation and apply research-based practices. Their advanced training enables them to make evidence-based instructional decisions. This contributes to improved teaching effectiveness in various subject areas. It suggests that higher educational attainment supports the integration of research into classroom instruction, including cursive handwriting.

Salvan and Hambre (2020) found that teachers pursuing master's degrees in the Philippines actively contribute to school-based literacy programs. Their continued education enhances their instructional leadership and involvement in curriculum development. This shows that higher education supports not only teaching

competence but also participation in school improvement initiatives. It highlights the importance of advanced studies in strengthening handwriting instruction programs.

Superioridad (2023) emphasized that professional development and in-service training can improve handwriting instruction regardless of formal educational attainment. Teachers who participate in training programs can enhance their instructional skills even without advanced degrees. This suggests that continuous learning is essential for effective teaching. It indicates that both formal education and training are important in developing handwriting instruction competence.

Writing Teachers (2025) found that teachers with bachelor's degrees tend to rely on direct instruction and follow prescribed penmanship methods. These approaches focus on structured and guided learning activities. While effective, they may limit instructional flexibility. This suggests that foundational education supports structured teaching but may require enhancement through further training.

Edutopia (2025) reported that teachers with basic educational preparation emphasize structured penmanship instruction and adherence to writing programs. These practices ensure consistency in teaching handwriting skills. However, they may not fully address diverse learner needs. This highlights the role of educational attainment in shaping teaching approaches.

Kidsense Therapy Group (2023) found that teachers with foundational preparation often use kinesthetic and multisensory strategies in teaching handwriting. These approaches help develop learners' fine motor skills and coordination. They provide engaging and interactive learning experiences. This indicates that even basic educational training can support effective handwriting instruction through appropriate strategies.

Waldorf Education (2025) found that teachers with advanced training have a deeper understanding of neurodevelopmental processes. This knowledge enables them to design instruction that supports motor skills, memory, and comprehension. Such understanding is important in teaching handwriting effectively. It suggests that higher education enhances teachers' ability to address learners' developmental needs.

Marin Waldorf School (2026) confirmed that advanced training in cognitive and motor development allows teachers to provide better support for learners. Teachers can design instruction based on research-informed principles. This leads to improved learning outcomes. This shows that educational attainment contributes to more effective and responsive teaching practices.

Sweller (2025) found that highly educated teachers, particularly those with graduate degrees, often serve as mentors in schools. They help set instructional standards and guide other teachers. This leadership role contributes to improved teaching quality. It suggests that higher educational attainment supports both instruction and professional collaboration.

Ramaila (2026) found that while higher education improves teachers' perspectives and theoretical understanding, its application in the classroom is often limited by time and resources. This creates a gap between knowledge and practice. Teachers may not fully implement what they have learned. This highlights the challenges in translating educational attainment into actual classroom instruction.

TPI-US (2020) similarly found that although higher education enhances teachers' perspectives, classroom practices are often constrained by curriculum demands and limited resources. This affects the implementation of innovative teaching strategies. It shows that external factors influence instructional practices. This suggests that educational attainment alone does not guarantee improved teaching outcomes.

Aragon (2024) found that teachers with doctoral degrees contribute to curriculum development by integrating research into classroom practice. Their expertise allows them to improve instructional materials and strategies. This supports more effective teaching and learning processes. It indicates that advanced education plays a role in enhancing curriculum quality.

Springer Learning Disabilities (2025) found that teachers with graduate degrees often act as mentors and promote high standards in instruction. They support other teachers in improving their teaching practices. This contributes to overall school improvement. This shows that higher educational attainment strengthens both individual and institutional instructional quality.

The literature of Darling-Hammond et al. (2020), OECD (2021), Harris and Jones (2022), Salvan and Hambre (2020), Aragon (2024), Sweller (2025), Springer Learning Disabilities (2025), Waldorf Education (2025), and Marin Waldorf School (2026) suggests that educational attainment contributes to instructional competence, curriculum development, and teaching effectiveness, with higher degrees enhancing lesson planning, innovation, and leadership skills in teaching.

However, the studies of Superioridad (2023), Ramaila (2026), TPI-US (2020), Writing Teachers (2025), Edutopia (2025), and Kidsense Therapy Group (2023) emphasize that training, teaching experience, and contextual factors also play important roles. These results indicate that teaching effectiveness is influenced by multiple factors rather than educational attainment alone.

Despite these results, there is insufficient localized evidence in the Philippine context on how teachers' educational attainment influences cursive handwriting instruction and learners' handwriting skills, particularly in the Cervantes District. This gap justifies the need for further investigation.

Effectiveness of Cursive Handwriting Skills

The following studies and literature focus on the effectiveness of cursive handwriting skills in enhancing cognitive, neural, and literacy development:

Van der Weel and Van der Meer (2024) conducted high-density EEG studies and found that handwriting engages broader neural networks than typing. This enhances memory retention and cognitive processing among learners. The results indicate that cursive handwriting supports deeper brain activity linked to learning. This is relevant as it shows the importance of handwriting in strengthening learners' cognitive development.

Van der Weel and Van der Meer (2023) confirmed that handwriting activates brain regions associated with reading and language. This suggests that cursive handwriting promotes integrated literacy development. It highlights that writing by hand is closely connected to reading skills. This supports the inclusion of cursive instruction in literacy programs.

Marano *et al.* (2025) found that systematic handwriting training develops complex brain connectivity patterns. These patterns are essential for memory formation and learning processes. The study shows that structured handwriting activities contribute to academic development. This emphasizes the value of organized cursive instruction in classrooms.

Pérez *et al.* (2025) reported that learners who received structured handwriting instruction improved in reading fluency and word recognition. This indicates that cursive handwriting has direct literacy benefits. It also shows that guided practice enhances reading-related skills. This is relevant in improving learners' academic performance.

Demir and Deniz (2024) found that handwriting activities stimulate higher-order cognitive processes such as attention and memory. These skills are necessary for effective learning. The results suggest that cursive writing supports mental engagement during tasks. This highlights its role in developing learners' thinking abilities.

Singh *et al.* (2024) observed that cursive handwriting strengthens neural pathways involved in reading and writing development. This demonstrates the dual function of handwriting in literacy. It also indicates that writing practice improves language skills. This supports the integration of cursive handwriting in instruction.

Wiley and Rapp (2021) found that writing by hand activates brain regions used for reading. It also helps learners distinguish similar letters more effectively. This improves reading accuracy and comprehension. The study highlights the connection between handwriting and reading development.

Nindi and Azkiya (2024) reported that multisensory handwriting strategies significantly improve writing fluency. These strategies involve visual, tactile, and kinesthetic approaches. The results suggest that varied teaching methods enhance learning outcomes. This supports the use of diverse instructional techniques in cursive writing.

Arasyid et al. (2022) found that early handwriting practice improves fine motor coordination and graphic maturity. These skills are essential for effective writing. The study indicates that cursive handwriting supports physical development. This is important for learners' overall writing ability.

Mahinay (2022) found that consistent handwriting practice improves legibility and writing speed among Filipino learners. This shows that regular practice enhances handwriting performance. It also highlights the importance of repetition in skill development. This is relevant to improving learners' writing proficiency.

Superioridad (2023) found that structured handwriting programs enhance learners' literacy outcomes. The study emphasizes the role of organized instruction in improving performance. It shows that systematic teaching leads to better results. This supports the implementation of structured cursive programs.

Bartov et al. (2024) found that learners with strong handwriting skills perform better academically. This is true regardless of their motor ability. The results highlight the broader impact of handwriting on academic success. This reinforces the importance of developing handwriting skills.

Fitjar et al. (2021) found a positive relationship between handwriting fluency and spelling accuracy. This is especially evident among struggling learners. The study suggests that cursive writing can support learners with difficulties. This makes it relevant in improving literacy outcomes.

Mueller and Oppenheimer (2021) suggested that handwriting and digital learning should be balanced. This means cursive writing remains important even in modern classrooms. The study highlights that both methods support learning. This justifies maintaining handwriting instruction alongside technology.

Handwriting Solutions (2024) found that learners with poor handwriting expend more cognitive effort on writing mechanics. This limits their ability to focus on content. The results show the importance of developing automaticity. This is relevant in improving learners' academic performance.

OT4ADHD (2025) found that high cognitive load from poor handwriting reduces focus on higher-level tasks. This affects learners' ability to think critically. The study emphasizes the need for fluent handwriting skills. This supports structured practice in cursive instruction.

Sensible Senco (2025) found that handwriting supports fine motor development that affects performance across subjects. This shows that handwriting skills extend beyond writing tasks. It contributes to overall academic success. This highlights the broader benefits of cursive handwriting.

Tutor Time (2022) found that fine motor development from handwriting prepares learners for more complex academic tasks. This indicates that handwriting is foundational to learning. The study supports early and continuous handwriting practice. This is important in developing learners' readiness.

CEUfast (2026) described handwriting as a "brain exercise" that strengthens motor control and coordination. This shows that handwriting develops both cognitive and physical skills. The study emphasizes its developmental importance. This supports the continued teaching of cursive writing.

Kim *et al.* (2024) found that writing by hand activates neural networks supporting letter recognition and reading fluency. This highlights the cognitive benefits of handwriting. It also shows its role in literacy development. This supports, integrating cursive writing in instruction.

Graham and Hebert (2024) found that handwriting strengthens neural integration needed for higher-order thinking. This indicates that writing supports deeper learning processes. The study highlights its role in academic development. This reinforces the importance of handwriting instruction.

Education Week (2023) found that teachers who value handwriting teach it more consistently. This shows that teacher beliefs influence instruction. It highlights the role of teachers in skill development. This is relevant in improving classroom practices.

The 74 Million (2025) reported that teachers who understand the benefits of handwriting implement it more effectively. This suggests that awareness affects teaching quality. It also emphasizes the role of teacher knowledge. This supports the need for teacher training.

TRS Warriors (2026) found that handwriting supports learning in low-tech environments. This is important in areas with limited access to technology. It ensures continuity of learning. This is highly relevant in the Philippine context.

Tao Testing (2025) found that handwriting serves as a reliable communication tool in resource-limited settings. This highlights its practical importance in education. It shows that handwriting remains essential despite technological changes. This supports its continued use in classrooms.

The reviewed studies of Van der Weel and Van der Meer (2023; 2024), Marano et al. (2025), Pérez et al. (2025), Demir and Deniz (2024), Singh et al. (2024), Wiley and Rapp (2021), Nindi and Azkiya (2024), Arasyid et al. (2022), Mahinay (2022), Superioridad (2023), Bartov et al. (2024), Fitjar et al. (2021), Kim et al. (2024), and Graham and Hebert (2024) show that cursive handwriting enhances cognitive development, literacy skills, fine motor coordination, and academic performance. These studies highlight that handwriting activates neural networks, improves reading and writing abilities, and strengthens learners' overall academic skills.

Furthermore, the studies of Mueller and Oppenheimer (2021), Handwriting Solutions (2024), OT4ADHD (2025), Sensible Senco (2025), Tutor Time (2022), CEUfast (2026), TRS Warriors (2026), and Tao Testing (2025) emphasize that structured instruction, consistent practice, and contextual relevance are essential in maximizing the effectiveness of cursive handwriting. These results indicate that handwriting remains important even in modern and resource-limited educational settings. In addition, Education Week (2023) and The 74 Million (2025) highlight that teacher beliefs and knowledge influence the consistency and effectiveness of handwriting instruction, emphasizing the need for teacher awareness and training.

However, there is limited localized research in the Philippine context, particularly among Grade VI learners, and insufficient evidence on how these benefits are applied in actual classroom settings. These gaps justify the need for the present study in the Cervantes District.

Teachers Require Learners to Write in Cursive

The following studies and literature are about the extent and nature of teacher expectations regarding cursive handwriting in classroom activities:

Kim and Schatschneider (2021) found that frequent, guided practice significantly improved learners' handwriting fluency and composition quality. Their study highlights that consistent teacher requirements play a crucial role in developing writing skills. Regular practice ensures that learners acquire proper penmanship techniques. This demonstrates the importance of teacher-enforced routines in fostering both accuracy and confidence in cursive handwriting.

Graham *et al.* (2022) reported that structured practice promotes handwriting automaticity, allowing learners to focus on expressing ideas rather than letter formation. The study emphasizes that teacher expectations for consistent practice directly influence how efficiently learners write. By providing clear and repeated practice routines, teachers help students internalize penmanship skills effectively. Automaticity in writing reduces cognitive load and supports more advanced literacy development.

Graham and Harris (2024) observed that explicit teaching combined with structured requirements is essential for developing handwriting automaticity. Their results indicate that guided instruction and routine practice improve learners' writing fluency. The study underscores that teacher-enforced practice routines are necessary

for consistent skill acquisition. Structured expectations help learners master cursive handwriting systematically and efficiently.

Wagner et al. (2021) found that clear and consistent practice requirements reduce extraneous mental effort in learners. Their research suggests that teacher expectations directly shape the cognitive demands of handwriting tasks. When teachers establish consistent routines, learners can focus on higher-order writing processes rather than struggling with basic letter formation. This supports the idea that well-structured expectations enhance handwriting skill development.

Kuo and Anderson (2023) noted that digital writing often replaces traditional cursive practice despite policy mandates. Their study highlights contemporary challenges in enforcing consistent handwriting expectations. The results suggest that teachers face pressure to integrate technology, which may reduce opportunities for regular penmanship instruction. This emphasizes the need for balancing digital skills with traditional handwriting practice.

De Guzman (2022) reported that regular teacher-mandated handwriting practice improved learners' writing fluency and confidence in the Philippine context. Consistent practice routines led to better performance and positive learner attitudes toward writing. The study demonstrates the importance of teacher-enforced expectations in developing both skill and self-efficacy. Focused instruction ensures that learners achieve measurable improvements in cursive handwriting.

Brindle and Koutsoulis (2024) emphasized that professional development ensures teachers can enforce handwriting practice consistently. Their research shows that training enhances instructional fidelity and promotes adherence to structured requirements. Teachers who receive ongoing guidance are more effective in establishing routines that improve handwriting outcomes. This underscores the link between teacher preparation and the quality of cursive instruction.

Gunther (2020) noted that requiring cursive handwriting without ensuring automaticity may be counterproductive. The study suggests that teacher expectations must align with learners' developmental readiness. Overemphasis on rote writing without fluency can increase cognitive load and hinder skill acquisition. This highlights the need for developmentally appropriate requirements in cursive instruction.

Ray *et al.* (2022) found that handwriting instruction is critical for literacy development. Their study indicates that consistent teacher expectations help strengthen reading and writing skills. Regular practice, as guided by teachers, ensures learners develop both fluency and accuracy. Structured teacher requirements support long-term academic achievement through handwriting development.

McCarroll (2024) identified a lack of instructional materials as a major barrier to enforcing consistent handwriting practice. The study demonstrates that resource availability directly affects the ability of teachers to implement structured expectations. Without adequate tools, even well-designed routines cannot be consistently followed. This highlights the role of material support in achieving teacher-mandated practice.

Santangelo and Graham (2022) emphasized that handwriting development correlates with reading and writing proficiency. Their results suggest that teacher expectations for structured practice directly impact learners' literacy outcomes. Well-implemented routines strengthen both motor skills and academic performance. Professional guidance ensures that handwriting practice contributes meaningfully to broader learning goals.

Suputra et al. (2024) reported that competing curricular priorities often limit the time teachers can allocate to handwriting instruction. Their study highlights structural challenges in implementing consistent practice. Teachers must balance multiple instructional demands, which can reduce opportunities for enforcing routine handwriting exercises. This emphasizes the importance of strategic planning in curriculum implementation.

Hutchinson et al. (2023) found that guided handwriting instruction improved spelling and reading speed among learners. Their study highlights that teacher-mandated practice not only develops writing skills but also reinforces broader literacy abilities. Consistent expectations from teachers provide learners with structured

opportunities to consolidate penmanship alongside language skills. This demonstrates that clear instructional routines benefit multiple areas of academic performance.

Department of Education (2023) issued guidelines mandating cursive handwriting instruction under the MATATAG curriculum. The policy emphasizes that teachers are responsible for ensuring consistent implementation across classrooms. By providing a national framework, the memorandum establishes minimum expectations for handwriting practice. This underlines the role of policy in guiding teacher requirements and ensuring uniformity in instruction.

Department of Education (2025) Memorandum No. 003, s. 2025 reinforced cursive instruction directives, specifying that schools must integrate penmanship exercises into literacy programs. The memorandum highlights structured expectations as essential for developing learners' handwriting proficiency. It also serves to align teacher practices with national curriculum goals. Policy mandates like this create a standardized approach for maintaining consistent handwriting instruction.

Structural Learning (2022) found that without district-specific guidelines, the implementation of cursive handwriting instruction remained moderate. Their study suggests that teachers may struggle to enforce practice consistently when localized expectations are unclear. Structured support at the district level enhances teachers' ability to meet curriculum mandates effectively. This indicates that teacher requirements depend not only on policy but also on practical guidance.

Malpique *et al.* (2023) reported that teachers often prioritize other classroom activities over handwriting practice. The study demonstrates that competing demands can reduce opportunities for consistent skill development. Without deliberate scheduling and emphasis, cursive instruction may be neglected. This highlights the need for deliberate planning to maintain teacher-mandated handwriting routines.

McKinley *et al.* (2023) observed that limited instructional time constrains the ability to conduct regular handwriting practice. Their results indicate that teacher expectations may be undermined by broader curriculum pressures. Even motivated teachers may find it challenging to maintain consistent routines without adequate time allocation. This underscores structural barriers affecting the implementation of handwriting requirements.

Nwosu (2024) highlighted that flexibility in writing modes accommodates diverse learner needs, emphasizing that teacher expectations should be developmentally appropriate. The study suggests that rigid enforcement of cursive without considering individual readiness may hinder learning. Teachers are encouraged to adapt practice requirements to support learners' cognitive and motor abilities. Developmentally aligned expectations improve skill acquisition and reduce frustration.

Teach Starter (2023) reported that insufficient teaching materials limit the enforcement of consistent handwriting practice. Their study shows that teacher expectations alone are insufficient without adequate resources. Access to worksheets, visual aids, and practice templates supports structured routines. This highlights the necessity of material support in fulfilling teacher-mandated requirements.

Iowa Reading Research Center (2024) confirmed that resource constraints significantly impact handwriting instruction. The research indicates that lack of materials directly affects the consistency and frequency of teacher-enforced practice. Ensuring adequate supplies enables learners to engage in structured cursive activities regularly. This reinforces the link between material availability and successful implementation of teacher expectations.

Hayes *et al.* (2020) found that teachers often follow school policies over personal preference when implementing handwriting instruction. Their study demonstrates that institutional guidelines strongly influence the consistency of teacher expectations. Teachers who align with policy ensure that learners receive structured and frequent practice. This emphasizes the interaction between policy, teacher practice, and student outcomes.

Sasidharan and Kotian (2025) reported that competing curricular priorities in diverse educational settings often limit opportunities for cursive practice. Their study highlights structural challenges faced by teachers in

balancing handwriting with other instructional demands. Consistent teacher expectations require careful integration of cursive exercises into broader lesson plans. Strategic planning is essential to maintain handwriting skill development despite competing requirements.

The reviewed studies indicate that teacher-mandated cursive handwriting practice is vital for developing learners' fluency, automaticity, and literacy skills, with structured routines and guided practice enhancing cognitive efficiency and penmanship (Kim & Schatschneider, 2021; Graham et al., 2022; Graham & Harris, 2024; Wagner et al., 2021; De Guzman, 2022; Ray et al., 2022; Santangelo & Graham, 2022; Hutchinson et al., 2023). Teacher expectations, however, are influenced by developmental readiness, curricular demands, and institutional policies, affecting consistency in classroom implementation (Kuo & Anderson, 2023; Gunther, 2020; Suputra et al., 2024; Malpique et al., 2023; McKinley et al., 2023; Nwosu, 2024; Hayes et al., 2020; Sasidharan & Kotian, 2025).

Professional development, instructional materials, and clear guidelines further support effective enforcement of handwriting practice (Brindle & Koutsoulis, 2024; McCarroll, 2024; Structural Learning, 2022; Teach Starter, 2023; Iowa Reading Research Center, 2024), while national policies mandate the integration of cursive instruction into literacy programs (DepEd, 2023; DepEd, 2025). Despite these insights, localized research in the Philippine context, particularly regarding Grade VI learners in Cervantes District, remains limited, with gaps in understanding how structural factors interact with teacher expectations to affect learning outcomes.

Level of Handwriting Skills

Level of handwriting skills refers to the proficiency of learners in cursive writing, encompassing legibility, speed, fluency, letter formation, spacing, alignment, and automaticity, which collectively influence academic performance and literacy development (Rosenblum & Parush, 2024). The following are studies related to the level of handwriting skills:

Rosenblum and Parush (2024) established standardized criteria for assessing handwriting proficiency, emphasizing legibility, speed, and fluency. Their study highlighted the importance of consistent and objective measurement to evaluate learners' cursive writing performance. By providing benchmarks, teachers can accurately monitor progress and identify areas needing improvement. This ensures that handwriting instruction is grounded in clear, measurable standards.

Santangelo *et al.* (2023) traced developmental trajectories of handwriting and found that automaticity is essential for coherent writing. Repeated practice allows learners to focus on content rather than letter formation, improving writing efficiency. The study underscores the role of structured practice in promoting fluent cursive writing, supporting teachers in planning consistent instructional routines.

Richards *et al.* (2021) emphasized that motor skill development underpins effective written communication. Foundational physical coordination is critical for writing fluency and accuracy. Their results suggest that handwriting instruction should integrate fine motor exercises alongside traditional writing practice to strengthen learners' writing abilities.

Wang *et al.* (2025) found that fluent handwriting reduces cognitive load, allowing learners to allocate mental resources to higher-order literacy tasks. When learners achieve automaticity in cursive writing, they can focus on comprehension, organization, and content generation. This highlights the connection between handwriting skills and broader academic performance.

López *et al.* (2021) identified critical indicators of handwriting proficiency, including letter formation, spacing, alignment, and legibility. Clear criteria allow teachers to systematically assess and target learners' weaknesses. Their study emphasizes that handwriting competence is multidimensional and requires holistic evaluation.

Downing and Caravolas (2023) developed a comprehensive evaluation tool that captures multiple dimensions of cursive writing skills. This tool supports a more precise assessment of learners' performance in real classroom

contexts. Their results highlight the value of structured, standardized approaches to evaluate handwriting proficiency.

Vinci-Booher and James (2021) found that handwriting experience strengthens functional brain connectivity, supporting the neurological basis of writing skill acquisition. Their study demonstrates that consistent cursive practice enhances cognitive development, integrating motor and cognitive learning processes. This provides evidence that handwriting instruction contributes to broader academic growth.

Fitjar *et al.* (2021) noted that handwriting quality declines under time pressure when learners divide attention between mechanics and content. The study shows that cognitive load affects writing performance and emphasizes the need for structured practice. Teachers must balance speed and accuracy to ensure learners develop automaticity without sacrificing quality.

Bergland (2020) reported that learners with underdeveloped coordination struggle to maintain straight writing lines. This emphasizes the importance of fine motor training and physical readiness for writing. Teachers should consider posture, hand exercises, and classroom ergonomics to support learners in overcoming physical barriers.

Opportunity Village (2024) found that focusing excessively on individual letters compromises alignment and overall writing quality. This study suggests that cursive instruction should balance attention to detail with holistic writing fluency. Structured lessons that gradually integrate letter formation into continuous writing are recommended.

MN Neuropsychology (2025) highlighted that poor posture and crowded desks exacerbate writing difficulties, affecting learners' handwriting performance. Their results point to environmental and ergonomic factors as critical components in handwriting instruction. Optimizing classroom conditions can support skill development and prevent frustration.

Advanced Therapy Clinic (2025) emphasized that validated technology-assisted assessment tools improve handwriting evaluation accuracy. Objective measurement through digital tools enables more reliable identification of learners' strengths and weaknesses. This supports teachers in making informed instructional decisions.

Toffoli *et al.* (2025) found that digital assessments provide objective evaluation of handwriting performance. These tools complement traditional observational methods and allow for precise tracking of learner progress. Their study underscores the importance of incorporating technology in assessment strategies.

Gargot *et al.* (2023) demonstrated that pre-scriptural tasks can predict handwriting disorders, allowing early intervention. Early identification helps teachers tailor instruction to prevent long-term difficulties. This highlights the preventative role of assessment in cursive handwriting instruction.

Cabrillas (2025) reported that systematic instructional design enhances handwriting outcomes. Sequenced and progressively challenging exercises improve learners' writing proficiency. Their study shows that structured lesson planning is essential for gradual skill development.

Chameleon Creator (2025) emphasized that coherent structure and progressive sequencing in materials improve comprehension and skill acquisition. Well-organized instructional resources help learners achieve steady improvement in cursive writing. Teachers benefit from clear guidance to implement effective lessons.

Australian Education Research Organization (2023) reported that effective writing instruction must be systematic and explicitly taught. The research highlights that for learners to become proficient writers, they first need to master foundational "transcription" skills, which include handwriting and spelling. When these physical skills become automatic, students can then focus their mental energy on higher-level tasks like planning and organizing their ideas. This study supports the idea that using structured tools to teach cursive helps reduce the cognitive effort required to write, eventually leading to better overall writing quality.

Digital Learning Institute (2023) showed that combining visual and verbal channels enhances handwriting learning outcomes. Multisensory approaches strengthen memory, motor skills, and comprehension. Their results suggest that integrated methods maximize learning efficiency and engagement.

The reviewed literature of Rosenblum and Parush (2024), Santangelo et al. (2023), Richards et al. (2021), Wang et al. (2025), López et al. (2021), Downing and Caravolas (2023), Vinci-Booher and James (2021), and Fitjar et al. (2021) indicates that cursive handwriting proficiency is multidimensional, encompassing cognitive, motor, and instructional components. These studies highlight that legibility, fluency, speed, automaticity, and spatial organization collectively influence learners' academic performance and literacy development.

Furthermore, the studies of Bergland (2020), Opportunity Village (2024), MN Neuropsychology (2025), Gargot et al. (2023), and Cabrillas (2025) emphasize the role of physical coordination, environmental conditions, and early intervention in shaping handwriting proficiency. These results suggest that both learner readiness and contextual factors significantly affect handwriting development.

In addition, the studies of Advanced Therapy Clinic (2025), Toffoli et al. (2025), Chameleon Creator (2025), Australian Education Research Organization (2023), and Digital Learning Institute (2023) highlight the importance of structured instructional design, appropriate learning materials, and technology-assisted assessment in enhancing handwriting skills. These approaches support accurate evaluation and progressive skill development among learners.

Despite strong international evidence, there is limited localized research in the Philippine context, particularly regarding Grade VI learners in the Cervantes District. Furthermore, there remains a gap in understanding how teacher instructional practices interact with learners' handwriting proficiency to impact academic outcomes, warranting further investigation.

The reviewed literature establishes that cursive handwriting instruction is influenced by teacher profile variables such as age, years in service, and highest educational attainment, which shape instructional approaches, competence, and classroom practices (Santos & Villanueva, 2021; Lazo, 2020; Hsiang et al., 2020; Kim et al., 2024; Askvik et al., 2020; Darling-Hammond et al., 2020; Limpo et al. 2024; Santangelo et al., 2023; Gillespie Rouse et al., 2021). Furthermore, studies have shown that cursive handwriting provides significant cognitive, neural, and literacy benefits, enhancing memory, reading, writing fluency, and overall academic performance, as supported by Van der Weel and Van der Meer (2023; 2024), Marano et al. (2025), and others (Pérez et al., 2025; Demir & Deniz, 2024; Singh et al., 2024; Wiley & Rapp, 2021; Fitjar et al., 2021; Graham & Hebert, 2024).

In addition, effective handwriting instruction requires structured teacher expectations, consistent guided practice, and alignment with institutional policies (Graham et al., 2022; Kim & Schatschneider, 2021; Wagner et al., 2021; Graham & Harris, 2024; Ray et al., 2022; Santangelo & Graham, 2022; Hutchinson et al., 2023; Kuo & Anderson, 2023; Hayes et al., 2020). Moreover, handwriting skills can be assessed through multidimensional indicators, including cognitive, motor, and instructional components, supported by structured assessment tools and instructional design (López et al., 2021; Downing & Caravolas, 2023; Vinci-Booher & James, 2021; Gargot et al., 2023; Cabrillas, 2025; Digital Learning Institute, 2023).

However, despite extensive international and national literature, significant gaps remain in the Philippine context. There is a lack of localized, empirical, and integrative studies examining the relationship between teacher profile variables, instructional practices, and learners' cursive handwriting skills, particularly among Grade VI learners. Moreover, there is limited evidence on how these variables interact to influence academic outcomes in specific local settings such as the Cervantes District. The present study addresses these gaps by examining these interrelationships and developing the Sequential Cursive Handwriting Tool-6, which aims to enhance both teaching practices and learners' handwriting proficiency.

Statement of the Problem

The study aimed to examine the current status of cursive handwriting among Grade VI learners in the Cervantes District.

Specifically, this study sought to answer the following questions:

What is the profile of teachers in terms of:

a. Age;

b. Years in the service; and,

c. Highest educational attainment?

1. What is the perceived level of effectiveness of cursive handwriting skills?
2. To what extent do teachers require learners to write in cursive?
3. Is there a significant difference between the teachers' profile and their perceived level of effectiveness of cursive handwriting?
4. Is there a significant difference between the teachers' profiles and the extent to which they require learners to write in cursive?
5. Is there a significant relationship between the extent to which teachers require learners to write in cursive and the learners' level of cursive handwriting skills?
6. What is the level of cursive handwriting skills of learners?
7. What output can be developed based on the results?

Hypotheses

The study tested the following null hypotheses:

1. There is no significant difference between the teachers' profile and their perceived level of effectiveness of cursive handwriting.

2. There is no significant difference between the teachers' profiles and the extent to which teachers require learners to write in cursive.

3. There is no significant relationship between the extent to which teachers require learners to write in cursive and the learners' level of cursive handwriting skills.

Importance of the Study

This study holds substantial value for multiple stakeholders in education, particularly for foundational literacy

development and handwriting instruction.

Teachers. This finding may help them recognize whether handwriting quality serves as an indicator of academic performance. This awareness may prompt them to adopt more effective teaching strategies and interventions tailored to students' handwriting needs.

Curriculum developers. This result may provide insights into the role of cursive handwriting in literacy acquisition, potentially guiding the integration of handwriting components into the curriculum to support holistic learning.

School Administrators. This study may inform decisions regarding teacher training, materials procurement, and program development to support effective handwriting instruction in elementary schools.

Students. This improvement of cursive handwriting instruction may enhance their writing fluency, literacy skills, and overall academic performance, particularly in subjects that require written expression.

Future Researchers. This study may contribute to the growing body of literature on handwriting and academic performance in the Philippine context, offering a basis for further exploration or program development related to writing skills.

Definition of Terms

Teachers. This refers to the Grade 6 elementary school educators currently teaching in public elementary schools within the Cervantes District who participate in this study.

Age. This refers to the chronological age of the teacher at the time of data collection, categorized into the following ranges: 20–30 years old, 31–40 years old, 41–50 years old, and 51 years old and above.

Years in the Service. This refers to the total number of years a teacher has been actively teaching in elementary schools. For this study, these years are categorized into: 1–5 years, 6–10 years, 11–15 years, and 16 years and above.

Highest Educational Attainment. This refers to the highest academic degree or level of education formally completed by the teacher. This will be categorized as Bachelor's Degree, with MA units, Master's Degree, with PhD units, and Doctorate Degree.

Elementary Learners. Refers to students currently enrolled in Grade 6 in public elementary schools within the Cervantes District who participate in the cursive handwriting assessment.

Cursive Handwriting Skills. This refers to the ability of the assessed Grade 6 elementary learners to legibly and fluently write connected letters, words, and sentences in cursive style.

Level of Cursive Handwriting Skills. This refers to the categorized proficiency level of Grade 6 learners in cursive handwriting. This level was determined by their numerical scores on the cursive handwriting assessment, which was quantitatively grouped into predefined categories (e.g., Beginner, Developing, Proficient, Advanced) based on established scoring ranges from the assessment rubric.

Teachers' Perception of Effectiveness. This refers to the subjective judgment and beliefs held by Grade 6 teachers in Cervantes District regarding the relevance, benefits, and necessity of cursive handwriting skills for their elementary learners.

Extent Do Teachers Require Learners to Write in Cursive. This refers to the observed frequency and specific contexts in which Grade 6 teachers in Cervantes District instruct, encourage, or mandate the use of cursive handwriting in classroom activities, assignments, and assessments.

Significant Difference. This refers to the statistical determination of whether there are meaningful variations in the perceived level of effectiveness and the extent do teachers require learners to write in cursive, based on groupings such as age, years in service, or highest educational attainment.

Significant Relationship. This refers to the statistical evidence indicating a reliable association between learners' cursive handwriting skills and the extent to which teachers require cursive writing.

Sequential Cursive Handwriting Tool–6. This refers to the researcher-developed instructional and assessment material produced as the output of this study, comprising structured and progressive activities focusing on five components: legibility, letter formation, line alignment, size consistency, and spacing. The tool includes guided exercises and standardized scoring rubrics designed to enhance and measure the cursive handwriting skills of Grade 6 learners.

METHODOLOGY

This chapter presents the research design, population, and locale of the study, sampling procedure, research instruments, data collection process, and the statistical tools used in analyzing the data.

Research Design

This study utilized a descriptive-comparative and descriptive-correlational research design to address the research objectives. The descriptive-comparative design allows for comparison between subgroups without manipulating variables (Cantrell, 2011). It was applied to determine whether significant differences exist between teachers' profiles—age, years in service, and highest educational attainment—and their perceived effectiveness of cursive handwriting, as well as the extent to which teachers require learners to write in cursive. This design addresses the objectives related to describing and comparing teacher characteristics and their instructional practices.

The descriptive-correlational design identifies and analyzes relationships between variables without experimental control (Creswell & Creswell, 2018). It was used to examine the association between the extent to which teachers require learners to write in cursive and learners' actual cursive handwriting skills. This design addresses the objectives related to exploring the relationship between teacher practices and learner outcomes.

By combining these designs, the study can both compare differences among teacher subgroups and analyze the relationship between instructional practices and student performance, ensuring all research questions are addressed and providing a comprehensive understanding of cursive handwriting instruction and proficiency among Grade 6 learners in the Cervantes District.

Population and Locale

The data used in this study were obtained from 180 Grade 6 learners and 22 Grade 6 teachers from 22 public elementary schools in Cervantes District, Cervantes, Ilocos Sur.

Below shows the distribution of student and teacher respondents:

Schools		Students		Teachers
		Population	Sample	
1.	Aluling Elementary School	21	11	1
2.	Bissayot Elementary School	15	8	1
3.	Biwak Primary School	4	2	1
4.	Cabaroan Elementary School	19	10	1
5.	Cervantes Central School	37	19	1
6.	Comillas North Integrated School	30	16	1
7.	Comillas South Elementary School	32	17	1
8.	Daing Integrated School	24	13	1
9.	Dinwede Elementary School	3	2	1
10.	Lamagan Elementary School	4	2	1
11.	Libang Elementary School	19	10	
12.	Liqueo Elementary School	8	4	1
13.	Malaya Elementary School	7	4	1
14.	Naiba Primary School	4	2	1
15.	Namaligan Elementary School	4	2	1
16.	Paang Elementary School	5	3	1
17.	Pilipil Elementary School	10	5	1
18.	Quinayad Elementary School	6	3	1
19.	Rosario Elementary School	25	13	1
20.	San Juan Elementary School	40	21	1

21. Tagpoe Elementary School	5	3	1
22. Zigzag Elementary School	19	10	1
TOTAL	**343**	**180**	**22**

To determine the validity of the developed material, the "Sequential Cursive Handwriting Tool," six expert validators were selected. The validators were education professionals selected for their teaching experience, expertise in elementary education or English, and background in evaluating instructional materials. The validators assessed the material based on four criteria: content, format, presentation and organization, and accuracy and up-to-datedness of information. Their evaluation determined the level of validity of the developed material.

Research Instrument

Two primary research instruments were utilized in this study:

Cursive Handwriting Performance Test. This instrument was administered to Grade 6 learners to assess their level of cursive handwriting skills. It was adapted and contextualized from Berninger *et al.* (1998) to ensure suitability to the local context. The test required learners to perform a structured cursive writing task under guided conditions.

Learners' outputs were evaluated using a rubric consisting of five key indicators: legibility, letter formation, spacing between letters and words, line alignment, and size consistency (see Appendix D). Each indicator was rated using a scaled scoring system to ensure objective and consistent assessment of handwriting performance.

To ensure validity, the test and its corresponding rubric were evaluated by a statistician and a language specialist. Their expert feedback was incorporated to improve the clarity, relevance, and appropriateness of the instrument. This process ensured that the tool was capable of generating reliable and quantifiable data on learners' handwriting proficiency.

Survey Questionnaire. This instrument was administered to Grade 6 teacher-advisers to gather data on their profiles, perceptions, and instructional practices related to cursive handwriting. The questionnaire consisted of three main sections: (1) demographic profile, including age, years in service, and highest educational attainment; (2) perceived effectiveness of cursive handwriting; and (3) extent to which teachers require learners to write in cursive (see Appendix D).

The items in the questionnaire were adapted from established instruments and frameworks, including Berninger *et al.* (1998), Landmark School Outreach (2021), Zaner-Bloser (2021), James and Engelhard (2022), and Christensen and Jones (2019). These sources ensured that the instrument was grounded in recognized theories and practices in handwriting instruction.

For validation, the questionnaire was reviewed by a statistician and a language specialist. Revisions were made based on their recommendations to enhance the clarity, coherence, and relevance of the items. This ensured that the instrument accurately measured the variables of the study and was appropriate for the target respondents.

Data Gathering Procedure

To ensure systematic and ethical data collection, the researcher followed a step-by-step process. Initially, formal approval was sought from the District Coordinating School Head of Cervantes District, Ilocos Sur. Upon receiving approval, the researcher coordinated with the School Heads of the selected public elementary schools to secure authorization for administering the research instruments.

Once permissions were obtained, the Cursive Handwriting Performance Test was administered to Grade 6 learners during their regular classroom sessions. The cooperation of teacher-advisers was requested to help facilitate the activity and minimize disruptions. The learners' written outputs were collected immediately after the session and scored using the established rubric.

Simultaneously, the Survey Questionnaire was distributed to the Grade 6 teacher-advisers. The researcher provided clear instructions and informed the respondents of the voluntary nature of their participation. A letter of informed consent and confidentiality assurance accompanied the instrument, ensuring that responses remained anonymous and confidential (see Appendix A).

After administering all instruments, the researcher collected, organized, and encoded the data for statistical analysis.

Statistical Treatment of Data

The following statistical tools were employed to analyze the data:

Frequency count and percentage distribution were utilized to describe the demographic profile of the teachers.

To assess the level of cursive handwriting skills among elementary learners, the perceived level of effectiveness of cursive handwriting by teachers, and the extent do teachers require learners to write in cursive, the mean was computed.

To determine if there are significant differences between the teachers' profile variables (age, years in service, highest educational attainment) and their perceived level of effectiveness of cursive handwriting, as well as the extent to which they require cursive writing, One-Way Analysis of Variance (ANOVA) (for more than two comparison groups) was employed.

The Pearson Product-Moment Correlation Coefficient (Pearson's r) was applied to evaluate the strength and direction of the relationship between the extent teachers require learners to write in cursive and the learners' level of cursive handwriting skills.

Data Categorization

To aid in interpretation and analysis, the following descriptive scales were used.

The scale below was used to determine the perceived level of effectiveness of cursive handwriting skills.

Statistical Limit	Descriptive Equivalent
3.26 - 4.00	Very Effective (VE)
2.50 - 3.25	Effective (E)
1.75 - 2.49	Slightly Effective (SE)
1.00 - 1.74	Not Effective (NE)

The scale below was used to determine the extent to which teachers require learners to write in cursive.

Statistical Limit	Descriptive Equivalent
3.25 - 4.00	Always (A)
2.50 - 3.24	Sometimes (S)
1.75 - 2.49	Rarely (R)
1.00 - 1.74	Never (N)

The scale below was used to determine the level of cursive handwriting skills of learners.

Cursive Performance	Descriptive Equivalent	Interpretation
3.25 - 4.00	Excellent	The learner demonstrates mastery of all cursive elements.
2.50 - 3.24	Good	The learner meets most standards with minor inconsistencies.
1.75 – 2.49	Fair	The learner shows basic skills but lacks consistency/neatness.
1.00 – 1.74	Poor	The learner struggles with basic formation and legibility.

Ethical Considerations

Ethical principles were strictly observed throughout the conduct of this study in line with the guidelines of the Department of Education (DepEd) and the broader academic community.

Before the study began, all Grade 6 teachers and pupils involved were fully informed of the research objectives and procedures. Participation was strictly voluntary**,** and participants were permitted to withdraw at any time without any form of penalty or consequence.

To uphold confidentiality and anonymity, no identifying information (such as names or schools) was included in any published reports. Each respondent was assigned a unique code for data encoding and analysis. All data was securely stored and accessible only to the researcher.

The researcher practiced integrity, honesty, and transparency in the collection, analysis, and presentation of data. All results were reported accurately and responsibly, and the dignity and rights of all participants were respected at all times.

RESULTS AND DISCUSSION

This chapter presents the results, discussion, and interpretation of data concerning the cursive handwriting skills and instructional practices of Grade VI teachers and learners in Cervantes District.

Profiles of Teachers

Table 1 presents the profile of the 22 Grade 6 teachers in Cervantes District in terms of age, years in service, and highest educational attainment.

Table 1. Profile of Teachers in Terms of Age, Years in the Service, and Highest Educational Attainment

Age	Frequency	Percentage
20-30	3	13.6 %
31-40	9	40.9 %
41-50	5	22.7 %
51 and above	5	22.7 %
Overall Total	**22**	**100.0 %**
Years in the Service	**Frequency**	**Percentage**
1-5 years	3	13.6 %
6-10 years	6	27.3 %
11-15 years	5	22.7 %
16 years and above	8	36.4 %
Overall Total	**22**	**100.0 %**
Highest Educational Attainment	**Frequency**	**Percentage**
Bachelor's Degree	2	9.1 %
With MA Units	9	40.9 %
Master's Degree	10	45.5 %
With PhD Units	1	4.5 %
Doctorate Degree	0	0 %
Overall Total	**22**	**100.0 %**

Age. The table shows that teachers aged 31–40 garnered the highest percentage of 40.9. This indicates that most Grade 6 teachers in Cervantes District are at a career stage that balances established experience with adaptability to new strategies. In cursive instruction, this group is well-equipped to model letter formation and guide structured practice. This is supported by Maurer *et al.* (2023) and Alves *et al.* (2024), who found that effective handwriting instruction requires explicit modeling, guided practice, and the development of specific

graphomotor patterns to ensure fluency. This implies that teachers in this age group are likely to successfully support learners in developing the fine motor control and precise letter formation required for legible cursive.

Following this, teachers aged 41–50 and 51 and above both comprised 22.7% of the respondents. This means that teachers in this age range are capable of providing cursive instruction through disciplined routines, structured practice, and diagnostic feedback. They emphasize procedural accuracy, monitor stroke formation, and provide corrective guidance to reinforce proper technique. This is supported by Scordella *et al.* (2022) and Wiley and Rapp (2021), indicating that experienced teachers enhance handwriting skills through structured sequences, consistent practice, and precise error detection. This implies that older teachers in Cervantes District have the potential to ensure accuracy, procedural consistency, and correction of errors in students' cursive handwriting.

Lastly, teachers aged 20–30 years represented the smallest proportion at 13.6%. Teachers in this age group often possess strong technological skills, but they may have had limited formal exposure to cursive handwriting during their own schooling. This means that they may experience challenges in modeling cursive handwriting due to a stronger personal reliance on digital literacy. In accordance with Social Learning Theory, when teachers do not consistently model the behavior of cursive writing, the students are less likely to perceive it as a necessary skill. This implies that the institution must provide relevant instructional materials and professional development to bridge the gap between digital expertise and traditional script instruction.

Furthermore, while they are still developing their own instructional routines, they excel at blending traditional methods with technology. This is supported by Learning Without Tears (2024) and Zaner-Bloser (2025), who emphasize that multimodal instruction combining digital and tactile resources creates multiple learning pathways for diverse students. This implies that younger teachers can effectively support cursive instruction by implementing evidence-based digital tools that build muscle memory, helping learners bridge the gap between traditional and modern writing formats.

The results show that Grade 6 teachers in Cervantes District come from different age groups, with the majority aged 31–40. This indicates that the district has a balanced group of teachers who can support cursive handwriting instruction through both experience and adaptability.

Years in the Service. Teachers with 16 years and above in the service constitute the largest and highest group with a percentage of 36.4%. This means that their long teaching experience provides them with a deep understanding of how to sequence lessons, adjust pacing, and respond to different learner needs when teaching cursive. According to Thorndike's Law of Exercise, repeated practice strengthens both skill and instructional ability, implying that these teachers can guide students efficiently and help prevent common mistakes in letter formation.

This is supported by Kirschner and van Merriënboer (2024) and Tirado-Morueta et al. (2023), who state that repeated practice allows experts to develop "automated schemas," which reduce the teacher's own mental effort and allow them to provide more responsive, real-time support to students. This implies that veteran teachers help learners master cursive through consistent practice and expert guidance, ensuring that students do not develop poor handwriting habits.

Teachers with 6–10 years of service, accounting for 27.3%, which means that these teachers possess pedagogical flexibility in their instruction. They are experienced enough to be confident in their writing but are also open to using creative, modern activities to make the lessons engaging. Santos and Villanueva (2021), points out that teachers in this group are effective at mixing traditional paper drills with interactive writing games, which implies that they make cursive more relatable for modern learners. Teachers are excellent at "scaffolding," or breaking down hard cursive loops into simple steps that beginners can follow (Lee & Lape, 2020).

Teachers with 11–15 years of service, comprising 22.7% of the respondents, which means that teachers at this stage have established strong instructional competence in handwriting. Because they have over a decade of experience, they are highly capable of reinforcing proper cursive habits through consistent practice and detailed feedback. This is supported by Vandermeulen *et al.* (2023) and Puntambekar (2021), who state that teachers with

over ten years of experience demonstrate stable instructional practices, especially in foundational skills like handwriting. This implies that teachers in this service bracket provide continuity and reliability, ensuring that the quality of cursive instruction remains steady. This aligns with Vygotsky's Theory of Scaffolding, as these teachers act as expert mentors who provide the necessary support to help students move from basic tracing to independent writing.

Lastly, teachers with 1–5 years of service, representing 13.6%, form the smallest group involved in cursive handwriting instruction. This means that these teachers are still in the early stages of developing their teaching routines and instructional techniques. When teaching cursive handwriting, they may rely more on structured materials such as handwriting workbooks or guided activities while strengthening their own instructional approaches. This is supported by Askvik *et al.* (2020) and Van der Weel and Van der Meer (2024), who found that brain connectivity and motor proficiency develop through structured practice, and demonstrated that handwriting but not typewriting leads to widespread brain connectivity. This implies that these teachers may introduce modern strategies that support learners in practicing handwriting skills while engaging in professional development to build traditional handwriting capabilities for effective cursive modeling.

Generally, most teachers have many years of teaching experience, particularly those with 16 years and above in service. This means that their experience may help them guide learners effectively in developing proper cursive handwriting skills.

Highest Educational Attainment. Teachers who have completed a Master's Degree garnered the highest percentage of 45.5%. This means that a large portion of grade 6 teachers in the Cervantes District have reached a level of "expert instructional leadership." Their advanced studies allow them to implement research-based strategies that help students master the flow of cursive. According to Cognitive Load Theory, these highly trained teachers are better at organizing information. This means that they can break down complex cursive strokes into smaller, manageable parts so that the students' working memory is not overwhelmed during the learning process. This finding is supported by Sweller (2025) and Springer Learning Disabilities (2025), who found that teachers with graduate degrees often serve as mentors, which implies they help set the high standards for cursive instruction in the school.

Closely following are teachers with MA units, comprising 40.9% of the respondents. This means that many teachers are actively pursuing further professional development. Teachers engaged in graduate studies are often exposed to various educational theories and teaching strategies that may support handwriting instruction. This is supported by Dual Coding Theory (Paivio, 1986) and Downing and Caravolas (2023a), who posit that information is processed through verbal and visual channels and that combining verbal instructions with visual cues creates redundant retrieval pathways that enhance memory, and found that concurrent assessment of spelling and handwriting through multiple modalities improves learning outcomes. This implies that teachers may explain the strokes verbally while simultaneously demonstrating the cursive letter formation to help learners remember how letters are written.

Teachers holding a Bachelor's Degree accounted for 9.1% of the respondents, which means that these teachers possess the foundational pedagogical training required to follow basic curriculum standards. Since their training focuses on primary education, they are highly capable of using structured workbooks to ensure students learn the basic shapes of cursive letters. Teachers at this level focus heavily on direct instruction and following prescribed penmanship (Writing Teachers, 2025; Edutopia, 2025; & Kidsense Therapy Group, 2023). This implies that their instruction ensures students meet the basic requirements for legibility through consistent, repetitive practice.

Lastly, teachers with PhD units comprised 4.5% of the respondents, with none holding a completed doctorate, making them the least represented group. This may be due to the time, cost, and limited access to doctoral studies. Despite their small number, teachers pursuing doctoral studies possess research-based knowledge that can support evidence-based instruction. As noted by Aragon (2024), doctoral-level teachers often contribute to curriculum development by connecting research to classroom practice. This implies that teachers with doctoral training may help strengthen research-based strategies and guide evidence-informed cursive handwriting instruction in the school.

Moreover, studies by Springer Learning Disabilities (2025), Waldorf Education (2025), and Marin Waldorf School (2026) highlight that understanding the neurodevelopmental foundations of handwriting helps teachers design instruction that supports motor skills, memory, and comprehension. This further implies that even limited doctoral-level training may contribute to improving cursive handwriting instruction through research-informed teaching practices.

Most Grade 6 teachers have completed or are pursuing graduate studies. This indicates that teachers in Cervantes District possess the professional knowledge that may support effective instruction in cursive handwriting.

Perceived Level of Effectiveness of Cursive Handwriting Skills

Table 2 presents the level of effectiveness of cursive handwriting for the Grade 6 teachers of Cervantes District.

Table 2. Level of effectiveness of Cursive Handwriting Skills

Statement	**WM**	**DE**
Cursive handwriting…		
systematically enhances learners' reading skills.	3.41	VE
systematically enhances learners' spelling skills.	3.59	VE
neurologically activates brain regions responsible for language and memory more than typing.	3.32	VE
cognitively reduces the extraneous mental load during complex composition tasks.	3.18	E
significantly improves mental focus.	3.09	E
fluently promotes the connection of letters to improve spelling.	3.45	VE
fluently promotes the connection of letters to improve reading speed.	3.36	VE
effectively enhance learners' fine motor skills.	3.45	VE
inclusively serves as a vital low-tech communication tool in limited-resource environments.	3.18	E
strategically supports the literacy foundations emphasized in the MATATAG Curriculum.	3.14	E
permanently strengthens the neural integration required for higher-order thinking.	3.27	VE
kinesthetically reinforces memory through visual-motor coordination and linguistic processing.	3.59	VE
AWM	**3.34**	**VE**

Legend: VI- Very Effective; E- Effective

The level of effectiveness of cursive handwriting has an average weighted mean of 3.34, with a descriptive equivalent of "Very Effective". This shows that teachers do not see cursive as an outdated skill, but as a valuable tool for learning. This high rating reflects their belief that handwriting is still necessary, even in a world full of computers. This belief is backed by recent studies showing that handwriting creates more elaborate brain connectivity patterns than typing, engaging neural networks crucial for memory formation and learning (Van der Weel & Van der Meer, 2024; Marano *et al.*, 2025; Askvik *et al.*, 2020; Wiley & Rapp, 2021). This implies that choosing a pen over a keyboard makes the brain more efficient at storing and retrieving new lessons. Furthermore, studies confirm that teachers who value handwriting are more likely to teach it well, as they believe it helps students store knowledge in their memory for a long time (Education Week, 2023; The 74 Million, 2025). This implies that teachers will be very supportive of the Sequential Cursive Handwriting Tool program.

The highest-rated indicators, *"Cursive handwriting systematically enhances spelling"* and *"Cursive handwriting kinesthetically reinforces memory through visual-motor coordination and linguistic processing",* tied for the highest weighted mean of 3.59 with a descriptive equivalent "Very Effective". This shows that teachers strongly believe the physical act of connecting letters helps the brain remember how words are spelled. According to Dual Coding Theory, the brain learns a word better when it uses both a mental picture and a physical movement at the same time (Paivio, 1991). This implies that teaching cursive not only improves handwriting but also supports students' spelling and memory retention.

Furthermore, research shows that because cursive is one continuous movement, the brain learns to recognize a whole word as a single "physical map" rather than separate letters, strengthening memory and making it easier to remember correct spelling patterns (Guilbert & Fernandez, 2024; Lumiere Child, 2020). This implies that connecting letters by hand builds muscle memory, so even if the mind forgets a letter, the hand remembers the movement, helping students write more confidently and accurately across subjects.

Indicators such as *"Cursive handwriting fluently promotes the connection of letters to improve spelling"* and *"Cursive handwriting effectively enhances learners' fine motor skills,"* tied with a weighted mean of 3.45, described as "Very Effective." This shows that teachers value how cursive builds hand strength and control. Studies emphasize that the careful movements in cursive "train the hand" for other school tasks, with research showing that fine motor skill development directly impacts academic performance across reading, writing, and math (Sensible Senco, 2025; Tutor Time, 2022; CEUfast, 2026). This implies that teachers view cursive as a form of "brain exercise," where practicing hand discipline prepares students for harder academic work.

The indicator *"Cursive handwriting systematically enhances learners' reading skills"* with a weighted mean of 3.41, described as "Very Effective". Teachers believe that learning to write in cursive helps students recognize letters and words more easily when they read. Studies found that writing by hand activates the parts of the brain used for reading and helps students tell the difference between letters that look similar (Wiley & Rapp, 2021; Vinci-Booher & James, 2021; Kim *et al.*, 2024; Graham & Hebert, 2024). This implies that cursive is a "double-purpose" skill—helping a student write more clearly will naturally help them become better and faster at reading.

On the other hand, the indicator, *"Cursive handwriting significantly improves mental focus,"* garnered the lowest weighted mean of 3.09, with a descriptive equivalent of "Effective". This means that while still seen as useful, teachers are not as sure that cursive is the main way to improve a student's attention span. Research notes that in a world full of digital distractions, teachers may feel that focus comes more from the classroom environment than from a writing style (Collins, 2026; Marano *et al.*, 2025; PsyPost, 2024). This implies that teachers see cursive more as a "reading and writing skill" than a "mental tool." It means that for students who find writing difficult, the struggle of cursive might actually make it harder for them to stay focused because it takes so much effort.

The indicator, *"Cursive handwriting strategically supports the literacy foundations emphasized in the MATATAG Curriculum,"* with a weighted mean of 3.14, described as "Effective". This shows that while teachers see its value, they may be unsure how to balance cursive with the curriculum's focus on simplifying lessons. Research highlights a similar challenge: modern curricula prioritize reducing topics to focus on basic literacy, creating tension between what teachers see as beneficial and the limited time allowed (Department of Education, 2023; The 74 Million, 2026; New Jersey Department of Education, 2026). This implies a gap between what teachers see as beneficial for learning and the limited time the curriculum allows, meaning cursive may be treated as a secondary skill unless formally integrated into literacy goals.

The indicators, *"Cursive handwriting reduces extraneous mental load during complex composition tasks"* and *"Cursive handwriting inclusively serves as an important low-tech communication tool in limited-resource environments,"* tied with the third lowest mean of 3.18, with a descriptive equivalent of "Effective". This means that teachers may undervalue cursive's role in cognitive efficiency and low-tech communication. Research confirms that fluent cursive reduces cognitive load during writing, and in areas with limited technology, handwriting ensures uninterrupted learning (Limpo *et al.*, 2024; Marano *et al.*, 2025; TRS Warriors, 2026; Tao Testing, 2025). This implies that cursive serves both as a cognitive aid and a practical tool for low-resource contexts.

The results indicate that teachers consider cursive handwriting highly effective for learning, particularly for spelling, memory, fine motor development, and reading. However, there is less certainty regarding its impact on mental focus and curriculum alignment. This underscores the need for structured programs like the Sequential Cursive Handwriting Tool, which integrates cursive practice into literacy instruction, promotes automaticity, and ensures learners gain confidence and proficiency across subjects.

Extent To Which Teachers Require Learners to Write in Cursive

Table 3 illustrates the extent to which teachers require learners to write in cursive.

Table 3. Extent do Teachers Requiring Learners to Write in Cursive

Statement	WM	DE
I strictly require learners to write in cursive during written activities.	3.09	S
I consistently integrate cursive writing requirements in English lessons.	3.05	S
I consistently integrate cursive writing requirements in Filipino lessons.	3.14	S
I consistently integrate cursive writing requirements in Araling Panlipunan.	3.05	S
I systematically assess learners' handwriting proficiency based on correct cursive form.	3.09	S
I purposely mandate the use of cursive when students write their formal signatures.	3.09	S
I actively include cursive writing in remediation or enrichment activities.	2.86	S
I regularly encourage students to use cursive handwriting in daily journal writing.	3.14	S
I purposely use student-made materials (like the SeWriMa program) to practice cursive writing.	2.64	S
I intentionally provide kinesthetic tools, specialized paper to support cursive practice.	2.77	S
AWM	**2.99**	**S**

Legend: S- Sometimes

It is shown in the table that the average weighted mean is 2.99, with a descriptive equivalent of “Sometimes.” This indicates that while cursive writing is included in the curriculum, it is not consistently required as a regular classroom practice. Its implementation appears to depend on instructional circumstances such as the subject being taught, lesson pacing, or the amount of available class time. This finding aligns with the observations of Malpique *et al.* (2023), McKinley *et al.* (2023), Lazo (2020), Suputra et al. (2024), and Sasidharan and Kotian (2025), who reported that teachers often prioritize other academic activities over handwriting instruction. This implies that competing curricular demands and limited instructional time may lead teachers to incorporate cursive writing only when it is directly relevant to the lesson, resulting in irregular opportunities for students to practice and strengthen handwriting fluency.

Similarly, Gunther (2020) explains that requiring cursive in every writing activity may be counterproductive for learners who have not yet developed handwriting automaticity, as it can slow their cognitive processing when dealing with more complex academic tasks. This implies that teachers may deliberately limit the use of cursive writing to balance handwriting development with the efficient completion of lesson objectives.

In the same way, Nwosu (2024) notes that allowing flexibility in writing modes can accommodate diverse learning preferences in modern classrooms where print, cursive, and digital writing coexist. This implies that the “sometimes” requirement for cursive writing may reflect teachers’ efforts to adapt handwriting practices to contemporary learning environments while still providing opportunities for students to be exposed to cursive writing.

The indicators, *"I consistently integrate cursive writing requirements in Filipino lessons"* and *"I regularly encourage students to use cursive handwriting in daily journal writing,"* tied for the highest weighted mean of 3.14, described as "Sometimes." This shows that teachers mostly use cursive in personal writing or Filipino lessons rather than across all subjects. Research indicates that handwriting instruction plays an important role in literacy development, including letter knowledge, spelling, and reading skills (Ray *et al.*, 2022), yet it often receives less emphasis as schools shift focus to other literacy priorities and digital skills, leading to inconsistent handwriting practice across subjects (Datchuk, 2024; Kim *et al.*, 2024; Graham, 2020; New Jersey Department of Education, 2026). This implies that because cursive is treated as a special or occasional activity rather than a regular practice across the curriculum, students may take longer to develop speed, comfort, and automaticity in cursive writing, especially in subjects like Science or English, where it is used less frequently.

The indicators*, "I strictly require learners to write in cursive during written activities", "I systematically assess learners' handwriting proficiency based on correct cursive form",* and *"I purposely mandate the use of cursive*

when students write their formal signatures", tied with one of the highest means of 3.09, with a descriptive equivalent of "Sometimes", indicating that teachers enforce cursive mainly for formal tasks rather than daily work. Research shows that fluent handwriting requires structured practice and automatic letter formation to reduce cognitive load and support writing quality (Graham, 2024; Guilbert & Fernandez, 2024; Handwriting Solutions, 2024), but such instruction is often limited due to competing curriculum demands (Graham *et al.*, 2020; Graham & Harris, 2024). This implies that when cursive is treated as a task for specific situations, students do not develop speed and fluency.

The lowest weighted mean of 2.64, with a descriptive equivalent of "Sometimes", is *"I purposely use Student-Made Materials (like SeWriMa) to practice cursive writing".* This indicates that teachers do not have the right books or worksheets to teach cursive properly. Research indicates that a lack of organized materials and resources is a primary barrier to effective handwriting instruction (McCarroll, 2024; Teach Starter, 2023; Iowa Reading Research Center, 2024). This implies that the students' "Fair" skills are a direct result of not having the right tools. It means that the district needs to start using the Sequential Cursive Handwriting Tool-6 program immediately to give teachers the help they need.

The indicator, *"I intentionally provide kinesthetic tools and specialized paper to support cursive practice,"* garnered a mean of 2.77, described as "Sometimes," indicating that students rarely receive the special lined paper that helps maintain proper letter size. Research shows that handwriting legibility is better on lined paper than on unlined paper, and that the type of paper used in classrooms varies considerably between teachers and grade levels, suggesting inconsistent provision of handwriting supports (Guilbert & Fernandez, 2024; Graham, 2024; Brainspring, 2025). This implies that the district lacks basic infrastructure for handwriting, and even when teachers want students to write in cursive, the absence of proper paper makes it harder for students to write correctly.

The indicator, *"I actively include cursive writing in remediation or enrichment activities,"* garnered a mean of 2.86, described as "Sometimes," which means that extra help for struggling students usually focuses on reading or math rather than handwriting. Research shows that handwriting development is linked to reading and writing proficiency, and that explicit handwriting support can strengthen broader literacy skills (Santangelo & Graham,2022; Kim *et al.*, 2024; Ray *et al.*, 2022; Graham & Hebert, 2024). This implies that without specific support for cursive, students with poor motor skills lack a safety net; if they do not learn cursive in regular class, they are unlikely to improve it through remediation.

Generally, Grade 6 teachers in Cervantes District only use cursive occasionally in Filipino lessons and journal writing, mainly enforce it for formal tasks like signatures, and rarely provide proper materials, specialized paper, or remediation support. This shows cursive is treated as a special activity rather than a daily skill. Without consistent practice across subjects, structured instruction, and the right tools, students cannot develop fluent cursive writing. The district must immediately implement the Sequential Cursive Handwriting Tool-6 program to give teachers the resources they need and make cursive a regular part of literacy instruction.

Significant Difference Between Teachers' Profiles and Perceived Level of Effectiveness of Cursive Handwriting

Table 4 presents the statistical analysis of the difference between the teachers' demographic profiles in terms of Age, Years in Service, and Highest Educational Attainment and their perception of the effectiveness of cursive handwriting of Grade 6 teachers in Cervantes District.

Table 4. Significant Difference Between Teachers' Profiles and Perceived Effectiveness of Cursive Handwriting

Age	N	Mean	DE	P-value	Interpretation
20-30	3	3.39	VEVEVEE	0.879	Not Significant
31-40	9	3.31			
41-50	5	3.45			
51 and above	5	3.23			

YS	N	Mean	DE	P-value	Interpretation
1-5 years	3	3.39	VEE VEVE	0.857	Not Significant
6-10 years	6	3.22			
11-15 years	5	3.45			
16 years and above	8	3.33			
HEA	**N**	**Mean**	**DE**	**P-value**	**Interpretation**
Bachelor's Degree	2	3.16	E VEE SE	0.020	Significant
With MA Units	9	3.58			
Master's Degree	10	3.24			
With PhD Units	1	2.42			

Legend: V- Very Effective; E- Effective; SE- Slightly Effective

Age. The analysis showed a p-value of 0.879, which is not significant, indicating no difference in how teachers of different ages value cursive handwriting. This means that teachers across all age groups share a consistent belief in the effectiveness of cursive handwriting. Research shows that teacher beliefs about instruction become stable when they are part of school culture and policy, not when they come from personal age or background (Darling-Hammond *et al.*, 2020; Alghazo & Hassan, 2021). This implies that valuing cursive has become a shared professional standard in the district, not a personal preference.

Furthermore, studies confirm that when teachers agree on a skill's importance, regardless of age, they teach it more consistently and support new programs better (Gillespie Rouse *et al.*, 2021; Kim & Schatschneider, 2021). This implies that the strong agreement among teachers of all ages makes the Sequential Cursive Handwriting Tool-6 program more likely to succeed. While global trends suggest younger teachers prefer technology, this district shows age does not divide opinion on handwriting (Hsiang *et al.*, 2020). This implies that teacher consensus across generations will help sustain the program long-term.

Years in the Service. The analysis for years in service resulted in a p-value of 0.857, interpreted as Not Significant. This means that both new teachers and veterans share the same belief in cursive effectiveness. Research explains that beliefs about basic literacy skills form during teacher training and stay stable throughout one's career, even with new digital tools (OECD, 2022; Bayat & Sural, 2022). This implies that the value placed on handwriting is a lasting part of teacher identity that does not fade with time. This shared belief strengthens teaching consistency and program success (Datchuk & Kubina, 2020; Wagner *et al.*, 2021). This implies that the district can use one unified training plan for all teachers, since both beginners and experts already agree on the cursive value. Moreover, studies show that structured handwriting instruction improves literacy and thinking skills (Hutchinson *et al.*, 2023; Longcamp *et al.*, 2023). This implies that keeping cursive in the curriculum is educationally sound and will receive sustained support from all experience levels.

Highest Educational Attainment. The analysis for the highest educational attainment resulted in a p-value of 0.020, which is interpreted as Significant. This means that a teacher's level of graduate study significantly changes how they view cursive, with teachers having "MA Units" giving the highest importance rating, while the teacher with "PhD Units" gave the lowest. Research grounded in Cognitive Load Theory explains that educators who perceive a skill as outdated may see it as adding unnecessary cognitive demand compared to digital tools (Redecker & Punie, 2020; Graham *et al.*, 2022). Studies also show that advanced academic training often emphasizes digital transformation and technology integration, which can shift instructional priorities toward digital literacy (OECD, 2021). This means that higher academic training may influence teachers to prioritize technology, potentially overlooking the developmental and cognitive benefits of handwriting for younger learners.

Additionally, research confirms the neurological connection between handwriting and brain development, including improved memory and literacy processing (Santangelo et al., 2023). Therefore, to gain strong support from highly educated teachers, the Sequential Cursive Handwriting Tool-6 program should be presented as a research-based cognitive intervention rather than a traditional handwriting activity. The results indicate that academic background shapes classroom priorities, highlighting the need to frame cursive instruction within contemporary scientific evidence.

Teachers of all ages and experience levels in the Cervantes District agree that cursive handwriting is effective. This shared belief makes it easier to implement the Sequential Cursive Handwriting Tool-6 program. However, teachers with higher degrees, especially PhDs, value cursive less because they focus more on digital skills. This means the program should be presented as a brain-building tool backed by science, not just an old-fashioned writing style. By showing how cursive improves memory and literacy through modern research, the district can gain support from all teachers and keep the program running long-term.

Significant Difference Between Teachers' Profiles and the Extent of Requiring Cursive Writing

Table 5 presents the statistical analysis of the differences in the extent do teachers require cursive handwriting when grouped according to their profile in terms of age, years in service, and highest educational attainment. Although teachers previously rated cursive handwriting as "Very Effective," this table determines whether these perceptions differ in terms of their actual classroom implementation across the different teacher groups.

Table 5. Significant Difference in the Extent of Requiring Cursive Writing considering their profile.

Age	**N**	**Mean**	**DE**	**P-value**	**Interpretation**
20-30	3	3.23	S	0.289	Not Significant
31-40	9	2.92	S		
41-50	5	3.36	S		
51 and above	5	2.60	S		
YS	**N**	**Mean**	**DE**	**P-value**	**Interpretation**
1-5 years	3	3.23	S	0.914	Not Significant
6-10 years	6	2.88	S		
11-15 years	5	2.96	S		
16 years and above	8	3.00	S		
HEA	**N**	**Mean**	**DE**	**P-value**	**Interpretation**
Bachelor's Degree	2	3.00	S	0.842	Not Significant
With MA Units	9	3.12	S		
Master's Degree	10	2.85	S		
With PhD Units	1	3.20	S		

Legend: S- Sometimes

Age. The teacher's age shows no significant difference in the extent to which they require cursive writing, with a p-value of 0.289, which is interpreted as Not Significant. This means teachers of all age groups from 20-30 years old to 51 and above require cursive at the same moderate rate. This lack of difference indicates that age does not influence how often teachers enforce cursive writing; both young and veteran teachers treat it the same. Research shows that teachers typically follow established school policies for literacy requirements rather than letting personal age preferences dictate classroom activities (Hayes *et al.*, 2020; NCES, 2022). This implies that the enforcement of cursive is a standardized practice within the district.

According to DepEd (2025), standardized instructional practices help ensure that all students receive the same level of training. This implies that a unified program like the Sequential Cursive Handwriting Tool-6 will be easy to implement because teachers are already accustomed to following a common level of requirement. However, Structural Learning (2022) notes that if district guidelines are not specific, the level of enforcement may stay at a moderate level for everyone, which explains the "Sometimes" rating seen in the data.

Years in the Service. The length of time a teacher has spent in the profession does not change the extent to which they require cursive. The analysis resulted in a p-value of 0.914, which is interpreted as Not Significant. This means beginner teachers with 1–5 years require cursive just as often as veterans with 16 and above of years. Research shows that when schools establish handwriting routines, all teachers, regardless of experience, follow similar patterns (Graham *et al.*, 2022; Zaner-Bloser, 2020). This implies that cursive enforcement is driven by school-wide habits, not individual teacher expertise.

Furthermore, the lack of difference means that teachers have reached a "teaching plateau" where everyone maintains the same moderate standard (König *et al.*, 2024; OECD, 2022). This implies that experience alone does not improve cursive instruction quality. Edutopia (2026) notes that consistent baseline requirements across experience levels actually help new programs succeed because all teachers start from the same foundation. This implies the Sequential Cursive Handwriting Tool program can be implemented uniformly without needing separate training for new and veteran teachers.

Highest Educational Attainment. A teacher's academic background shows no significant difference in how much they require cursive writing in the classroom. The analysis resulted in a p-value of 0.842, interpreted as Not Significant. This means that a teacher's advanced degree does not translate to more frequent cursive enforcement in the classroom. Highly educated teachers require cursive just as often as those with basic degrees. Although education levels changed how much teachers valued cursive (as seen in Table 3), those beliefs do not change their actual classroom practice.

This disconnect happens because classroom requirements are shaped by systemic constraints, not personal beliefs. According to Cognitive Load Theory, teachers often balance many different requirements at once, and if a skill is not specifically scheduled, they will only require it as much as their peers do to avoid overloading students (Sweller *et al.*, 2020; Educational Technology, 2025). This implies that a structured tool like the Sequential Cursive Handwriting Tool program is necessary to help teachers of all education levels turn their strong beliefs into a consistent, daily classroom requirement.

Research observes that while higher education changes a teacher's perspective, the actual classroom tasks are often limited by available time and school resources (Ramaila, 2026; TPI-US, 2020). This shows that even if a highly educated teacher believes cursive is very effective, they may only require it "sometimes" because of a crowded curriculum. This implies that the teacher's personal academic growth does not automatically lead to more student practice if the school schedule is already full. Zaner-Bloser (2020) notes that without specific instructional materials, even highly educated teachers will stick to the minimum required amount of practice. This implies that beliefs alone cannot overcome structural barriers; only dedicated tools and scheduled time can turn teacher values into daily action.

Teachers in the Cervantes District enforce cursive handwriting sometimes, regardless of age, experience, or academic attainment. This shows that cursive instruction is guided more by school routines and time constraints than individual teacher characteristics. While teachers value cursive, structured programs like the Sequential Cursive Handwriting Tool are necessary to translate these beliefs into daily practice. By providing specific tools and scheduled practice, all teachers—young or old, new or veteran, highly educated or not—can establish consistent cursive practice for every student.

Significant Relationship Between Teachers' Extent of Requirement of Cursive Writing and Learners' Cursive Skills

Table 6 presents the correlation analysis between the extent to which teachers mandate cursive in their classrooms and the actual proficiency levels of the Grade 6 learners in the Cervantes District.

Table 6. Significant Relationship Between Teachers' Requirement of Cursive Writing and Learners' Cursive Skills

	AWM	DE	P-value	Interpretation
Extent To Which Teachers Require	2.99	S	0.447	Not Significant
Level of Cursive Handwriting Skills	2.24	F		

Legend: S- Sometimes; F- Fair

The extent to which teachers require cursive writing does not significantly influence the level of learners' cursive handwriting skills. The statistical analysis resulted in a p-value of 0.447, which is interpreted as Not Significant. This means that even when teachers "sometimes" require cursive writing, learners' proficiency remains at a Fair level. This indicates that increasing the frequency of cursive requirements alone does not automatically improve

learners' handwriting skills. Without adequate instructional support, repeated practice is insufficient to develop mastery.

This finding is consistent with Cognitive Load Theory, which emphasizes that skill development occurs through structured guidance, modeling, and feedback, rather than mere repetition of tasks (Sweller *et al.*, 2020; Educational Technology, 2025). This implies that instructing students to write in cursive without demonstration and corrective guidance may not significantly strengthen their motor or cognitive handwriting skills.

Research further supports this view, showing that handwriting fluency improves most effectively through explicit, systematic instruction with scaffolded exercises and feedback, rather than through repetitive writing demands alone (Graham & Harris, 2024; Limpo *et al.*, 2024; Kim *et al.*, 2024). Therefore, the moderate enforcement reflected in the *"Sometimes"* rating may not be sufficient to raise learners' performance above a Fair level.

Overall, the results mean that instructional quality has a greater impact than the frequency of requirements. This implies that a structured and guided intervention, such as the Sequential Cursive Handwriting Tool–6 program, is necessary to transform occasional cursive writing tasks into measurable improvements in learners' handwriting proficiency.

Level of Cursive Handwriting Skills of Learner

Table 7 presents the performance of Grade 6 learners in Cervantes District across five specific criteria, which are: legibility, letter formation, spacing, line alignment, and size consistency.

Table 7. Level of Cursive Handwriting Skills of Learners

Criteria	Weighted Mean	Descriptive Equivalent
1. Legibility	2.47	Fair
2. Letter Formation	2.13	Fair
3. Spacing	2.20	Fair
4. Line Alignment	2.15	Fair
5. Size Consistency	2.27	Fair
Overall Total	**2.24**	**Fair**

Grade 6 learners in Cervantes District have an overall cursive handwriting mean of 2.24, described as "Fair." This indicates that while students have learned the basics of cursive writing, they have not yet developed automaticity or refined, fluent penmanship. A "Fair" score means learners can perform connected writing but often show inconsistencies in form, alignment, and spacing. This functional but unrefined skill still requires conscious effort.

According to Cognitive Load Theory, students at this level spend so much mental energy on pen movement that less is available for content or thinking (Handwriting Solutions, 2024; OT4ADHD, 2025). This implies that the heavy cognitive load of handwriting prevents students from focusing on higher-level writing tasks. Locally, the MATATAG Curriculum (2023) emphasizes other literacy skills, which implies that limited daily practice may prevent learners from advancing beyond this basic level.

Legibility. Legibility garnered the highest weighted mean of 2.47, described as Fair. This indicates that students are generally able to produce readable handwriting; however, clarity and neatness are not consistently maintained, especially during longer writing tasks or when writing quickly. This finding is supported by Fitjar *et al.* (2021) and Gosse *et al.* (2021), who noted that when learners are still focusing on the mechanical act of writing, handwriting quality tends to decline under time pressure.

At this stage, students have not yet fully developed automaticity, which affects consistency and neatness. This implies that students need continued guided practice to strengthen fluency and reduce the cognitive effort required for letter formation. Meanwhile, Bartov *et al.* (2024) and Abidogun (2024) explain that handwriting

remains functionally acceptable as long as it is readable for academic purposes. This implies that while students meet the minimum standard of readability, further improvement is necessary to enhance overall handwriting quality and sustain neatness in extended writing tasks.

Size Consistency. Size consistency garnered a weighted mean of 2.27, described as Fair. This indicates that students can maintain correct letter height and proportion at times, but uniformity is not sustained in extended writing tasks. This finding aligns with Prunty & Barnett (2020) and Handwriting Heroes (2025), who explained that developing writers struggle with consistent letter size because their cognitive effort is focused more on content and speed than on form. Without established muscle memory, proportional control becomes inconsistent. This implies the need for structured alignment and proportion exercises to strengthen motor control and maintain neatness in longer writing activities.

Spacing. Spacing received a weighted mean of 2.20, described as Fair, meaning the gaps between letters and words are uneven. Students often crowd letters together or leave spaces that are too wide. Handwriting Solutions (2024) notes that uneven spacing occurs when students are unsure of their next move, implying a lack of steady rhythm that makes writing look messy. Poor spacing also makes it harder for teachers to read work, which may lead to lower grades (Skill Point Therapy, 2025). On the other hand, Arasyid *et al.* (2022) mean that uneven spacing can reflect students developing their own personal writing style, implying it can be part of normal handwriting growth.

Line Alignment. Line Alignment received a weighted mean of 2.15, described as Fair, meaning students have a hard time keeping their writing straight on the line. The words often drift up or down. Bergland (2020) and Opportunity Village (2024) state that this is a sign that the brain and hand are not working perfectly together yet. This implies that students are so focused on the letters that they stop paying attention to where they are on the page. MN Neuropsychology (2025) argues that this happens because of poor posture or sitting at a crowded desk. This implies that improving the classroom environment could help students write more clearly.

Letter Formation. Letter Formation garnered the lowest weighted mean of 2.13, described as Fair. This means students find it very difficult to make the correct loops and connections between letters. These results are supported by Handwriting Heroes (2025) and Brainspring (2025), who state that forming letters is the hardest part of learning to write. This implies that students are essentially "drawing" each letter one by one rather than writing in one smooth motion.

According to Skill Point Therapy (2025), if students do not learn to form letters correctly early on, they will always write slowly. This implies that these Grade 6 students are working harder than they should, which makes writing a tiring task for them. However, students often change letter shapes on purpose to find a way to write that is easier for them (Bergland, 2020; MN Neuropsychology, 2025).

Overall, while learners demonstrate “Fair” performance across all criteria, the most significant challenge lies in proper letter formation. This indicates that interventions like the Sequential Cursive Handwriting Tool-6 program should prioritize basic stroke exercises, guided practice, and visual-motor coordination to help students develop smoother, more efficient handwriting. Structured and consistent practice can reduce cognitive load, improve automaticity, and support overall literacy development.

Output: Sequential Cursive Handwriting Tool for Grade 6

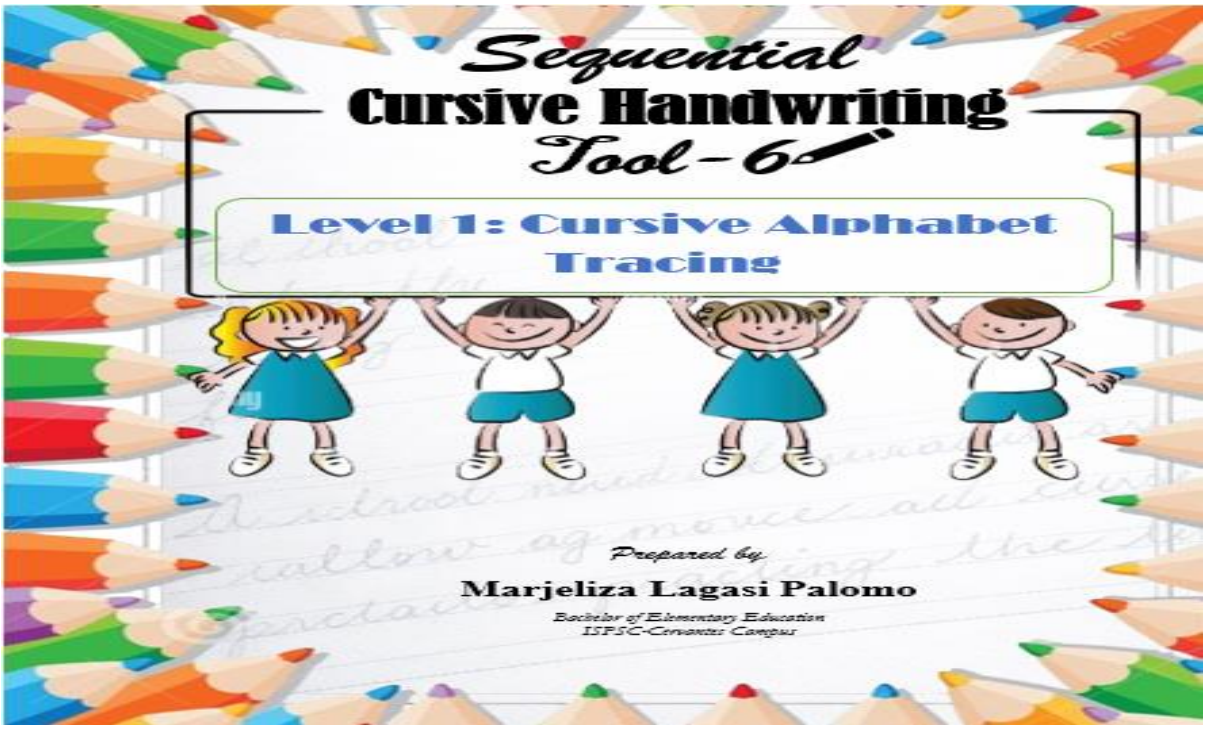
This study introduces the Sequential Cursive Handwriting Tool-6, a fully researcher-made, localized, and contextualized handwriting intervention designed to guide Grade 6 learners from a beginning level of cursive proficiency to mastery. The tool is structured into three progressive levels, integrating meaningful tasks, deliberate practice, and assessment to develop fluent, readable, and confident cursive handwriting.

Level 1: Cursive Writing Alphabet Tracing

Learners begin by tracing dotted cursive letters (A–Z, uppercase and lowercase). This level focuses on letter formation, proper stroke sequence, and hand movement control, laying the foundation for fluent cursive writing.

Learners' performance is assessed using a rubric that evaluates letter formation, stroke direction, tracing accuracy, consistency, and muscle memory.

Figure 2. Level 1: Front Page and Objectives



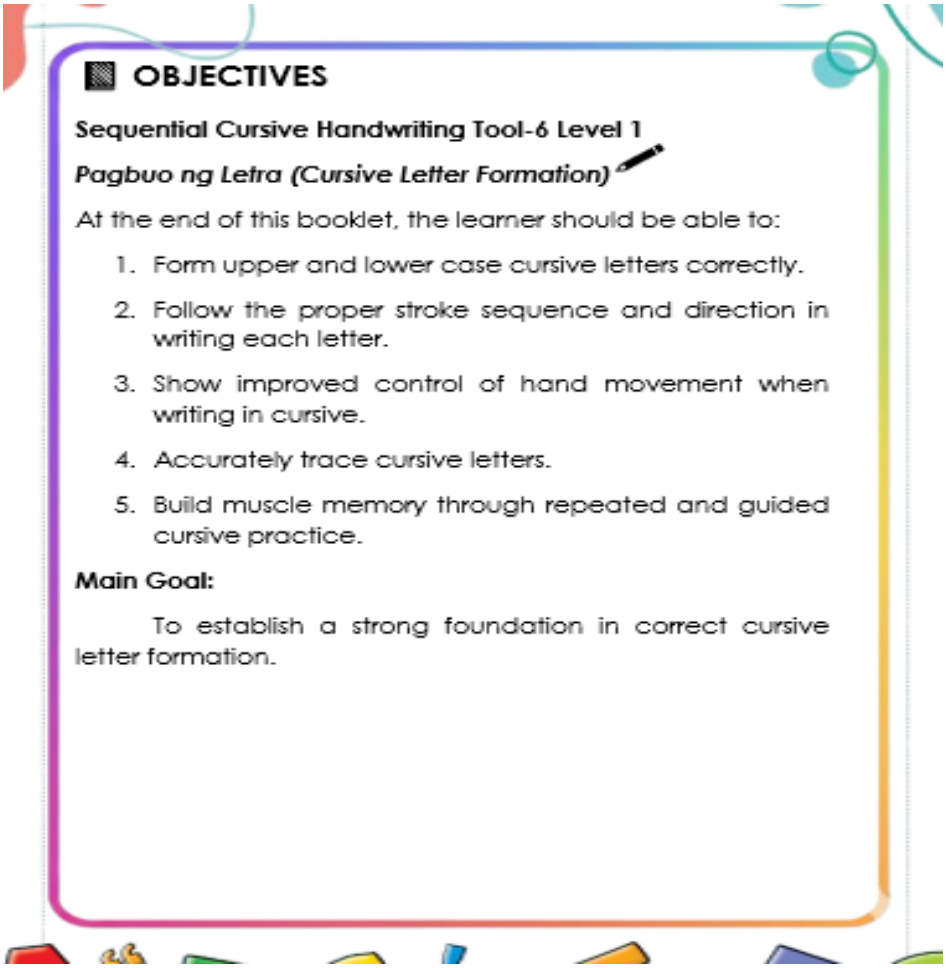


Figure 3. Level 1: Scoring Rubric and Cursive Writing Alphabet Tracing

Level 1 introduces learners to the essential forms and strokes of cursive writing. Tracing activities help develop fine motor skills, strengthen muscle memory, and improve accuracy and consistency. The rubric provides structured feedback, guiding learners toward proper formation and smooth execution. By repeatedly practicing and modeling correct forms, learners gradually transition from guided tracing to independent cursive writing with confidence.

Level 2: Cursive Alphabet Writing

Learners write cursive letters independently, focusing on line alignment, letter height, proportion, and spacing. Exercises include writing personal information, simple sentences, and contextualized tasks. A rubric evaluates letter height, baseline alignment, proportion, word neatness, and spatial consistency.

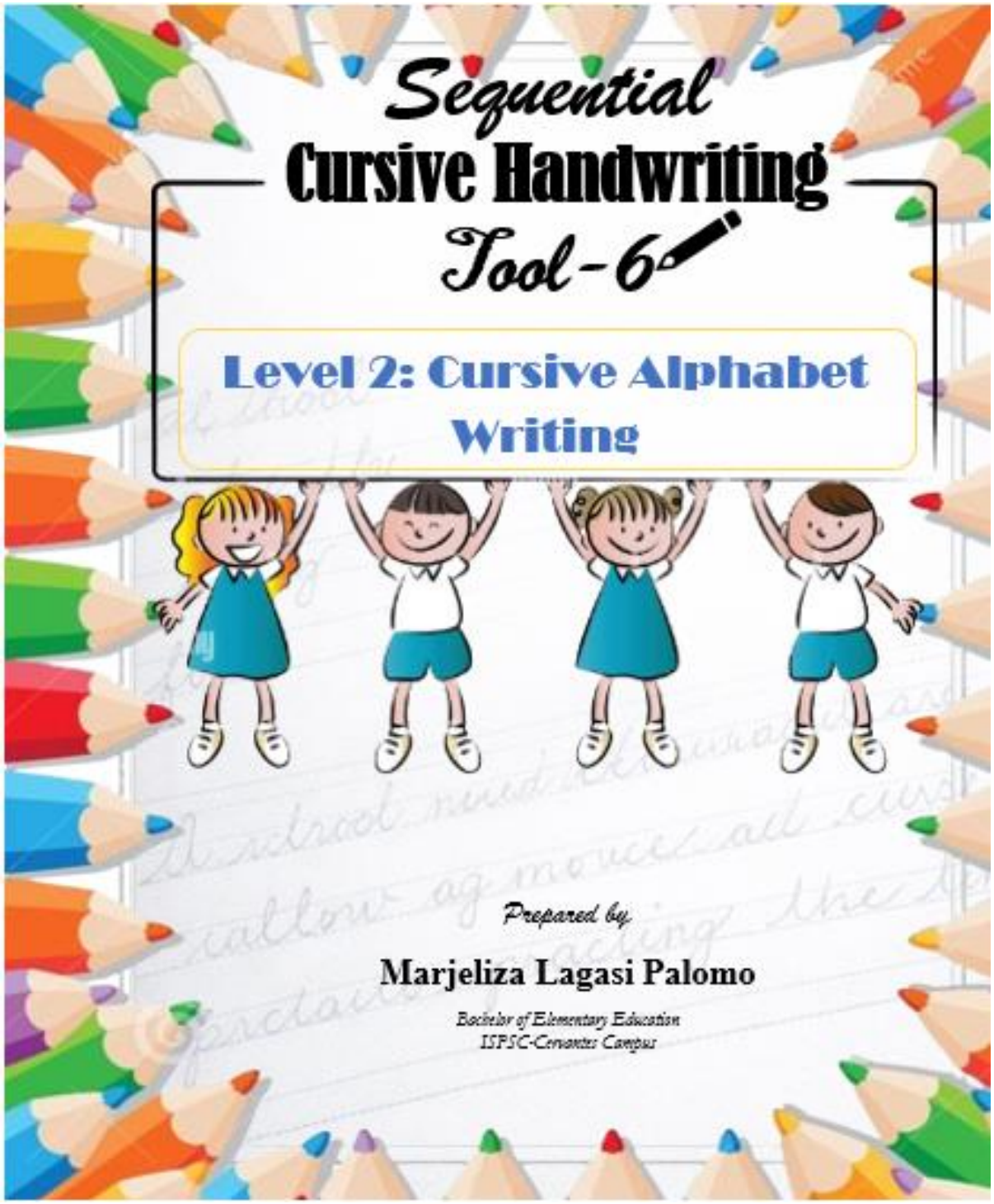
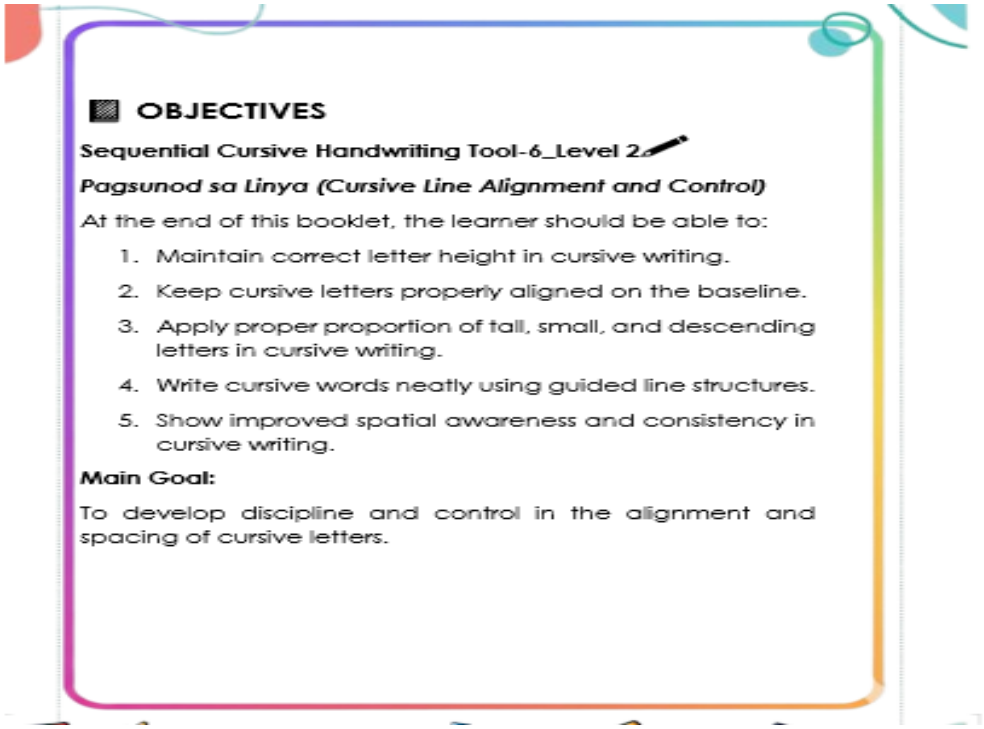


Figure 4. Level 2: Front Page



OBJECTIVES

Sequential Cursive Handwriting Tool-6_Level 2

Pagsunod sa Linya (Cursive Line Alignment and Control)

At the end of this booklet, the learner should be able to:

1. Maintain correct letter height in cursive writing.
2. Keep cursive letters properly aligned on the baseline.
3. Apply proper proportion of tall, small, and descending letters in cursive writing.
4. Write cursive words neatly using guided line structures.
5. Show improved spatial awareness and consistency in cursive writing.

Main Goal:

To develop discipline and control in the alignment and spacing of cursive letters.

Scoring Rubric

Criteria	4 – Excellent	3 – Proficient	2 – Developing	1 – Needs Improvement
Letter Height	All letters maintain correct height consistently (tall, small, descending).	Most letters maintain correct height; minor inconsistencies.	Several letters have incorrect height and inconsistent sizing.	Letters are frequently incorrect in height and disproportionate.
Baseline Alignment	Letters consistently sit on the baseline; no floating or sinking.	Letters mostly aligned; minor deviations above or below baseline.	Letters are often misaligned; noticeable floating or sinking.	Letters frequently misaligned; baseline ignored.
Letter Proportion	Proper proportion of tall, small, and descending letters throughout writing.	Generally proportional; occasional errors in tall or descending letters.	Inconsistent proportion; tall, small, or descending letters are uneven.	Poor proportion; letters are incorrectly sized and inconsistent.
Word Neatness	Words are written neatly, following guided line structures accurately.	Words mostly neat; minor deviations in spacing or line following.	Words are occasionally messy; spacing and line use are inconsistent.	Words untidy; letters and words poorly spaced or misaligned.
Spatial Awareness & Consistency	Excellent control of spacing between letters and words; writing is consistent.	Good control of spacing; some inconsistencies.	Some difficulty with spacing; inconsistent letter and word gaps.	Poor spatial control; crowded or widely spaced letters/words.

Figure 5. Level 2: Objectives and Scoring Rubric

Figure 6. Level 2: Cursive Alphabet Writing

At Level 2, learners apply the skills from Level 1 to independent writing. Emphasis is placed on correct alignment, consistent letter height, and proper spacing between letters and words. Contextualized activities make writing meaningful and relevant, fostering engagement and confidence. Regular practice improves control, neatness, and spatial awareness, helping learners develop consistent and legible cursive handwriting.

Level 3: Cursive Mastery

Learners progress to copying sight words, short stories, and completing a journal activity to express ideas freely. This level focuses on letter connection, word spacing, fluency, rhythm, and confidence in writing. A rubric evaluates all these criteria to guide mastery.

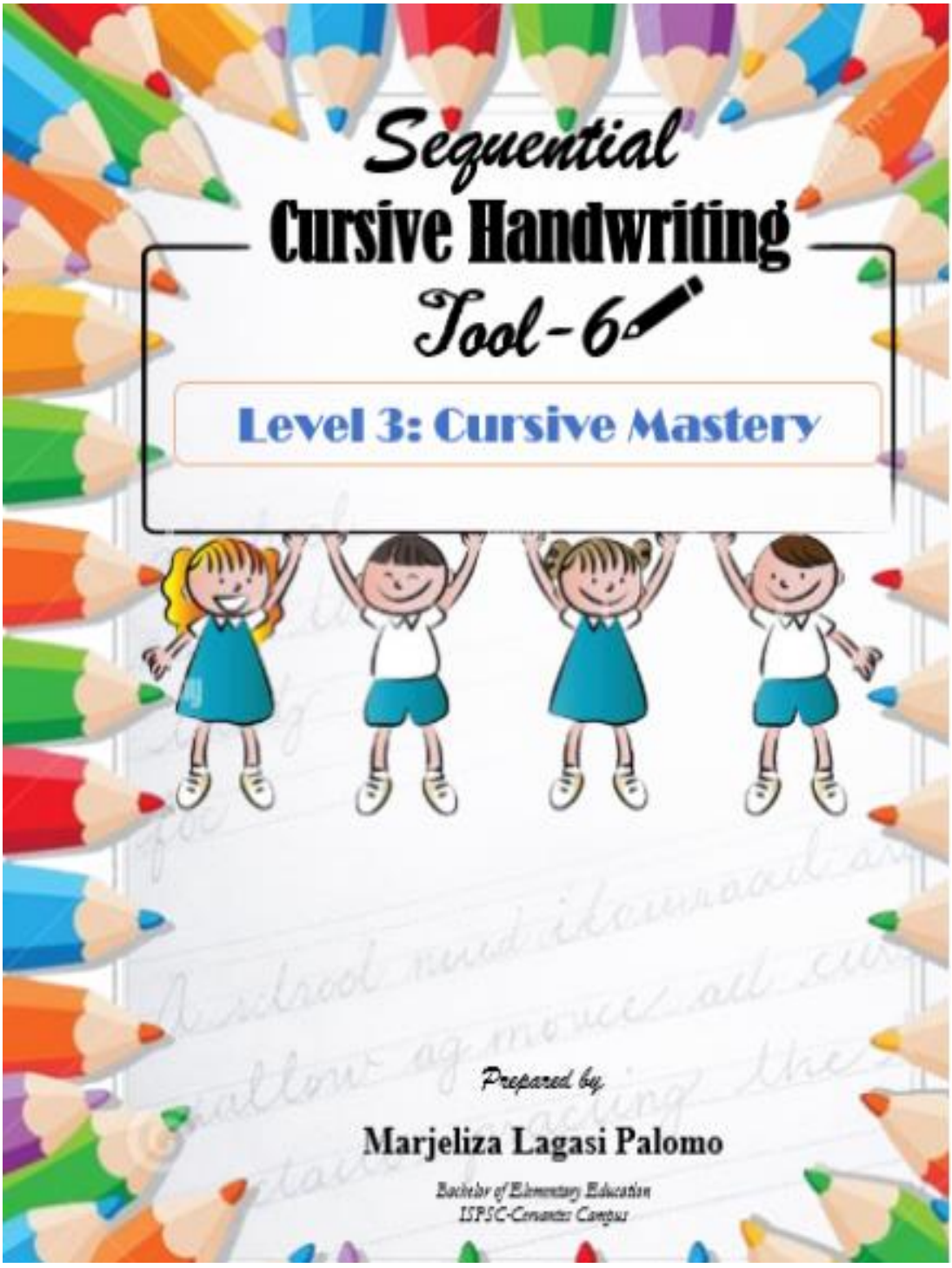
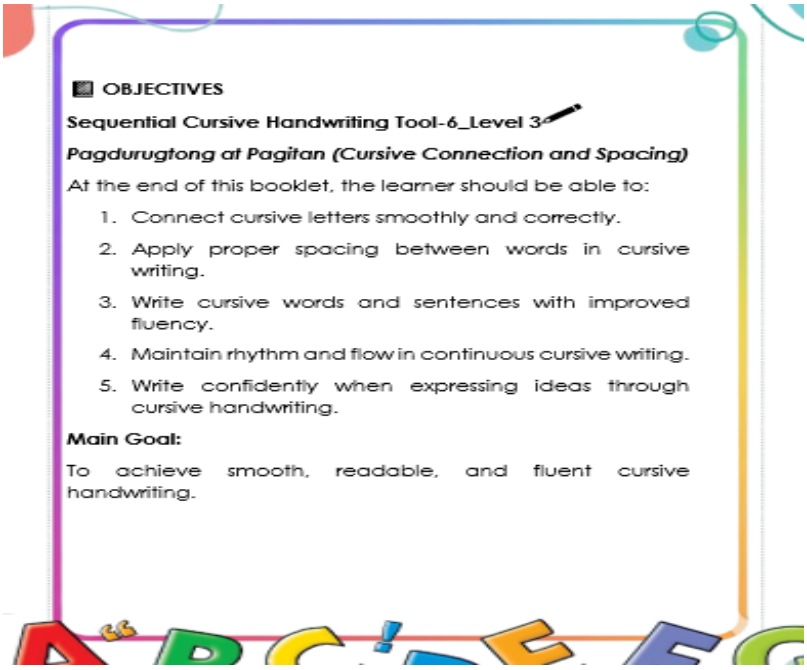


Figure 7. Level 3: Front Page



OBJECTIVES

Sequential Cursive Handwriting Tool-6_Level 3

Pagdurugtong at Pagitan (Cursive Connection and Spacing)

At the end of this booklet, the learner should be able to:

1. Connect cursive letters smoothly and correctly.
2. Apply proper spacing between words in cursive writing.
3. Write cursive words and sentences with improved fluency.
4. Maintain rhythm and flow in continuous cursive writing.
5. Write confidently when expressing ideas through cursive handwriting.

Main Goal:

To achieve smooth, readable, and fluent cursive handwriting.

Scoring Rubric

Criteria	4 – Excellent	3 – Proficient	2 – Developing	1 – Needs Improvement
Letter Connection	Letters are consistently and smoothly connected; no breaks in words.	Letters are mostly connected; minor breaks or hesitations.	Several letters are disconnected; inconsistent linking.	Letters rarely connected; writing appears choppy.
Word Spacing	Proper spacing maintained between words; easy to read.	Mostly correct spacing; minor inconsistencies.	Inconsistent spacing; words sometimes crowded or too far apart.	Poor spacing; difficult to read or interpret.
Fluency in Words/Sentences	Writing flows naturally with smooth transitions; sentences are clear.	Writing is mostly fluent; occasional pauses or rough transitions.	Some difficulty with flow; sentences uneven or interrupted.	Writing lacks fluency; sentences are choppy and disjointed.
Rhythm & Flow	Maintains consistent rhythm; handwriting appears effortless.	Generally consistent rhythm; minor lapses in flow.	Uneven rhythm; frequent interruptions in writing pace.	No rhythm; writing appears hesitant or labored.
Confidence & Readability	Writing is confident, legible, and expressive; ideas are clearly conveyed.	Writing generally legible; minor hesitation in expression.	Writing somewhat legible; hesitant or unclear expression.	Writing difficult to read; lacks confidence and clarity.

Figure 8. Level 3: Objectives and Scoring Rubric

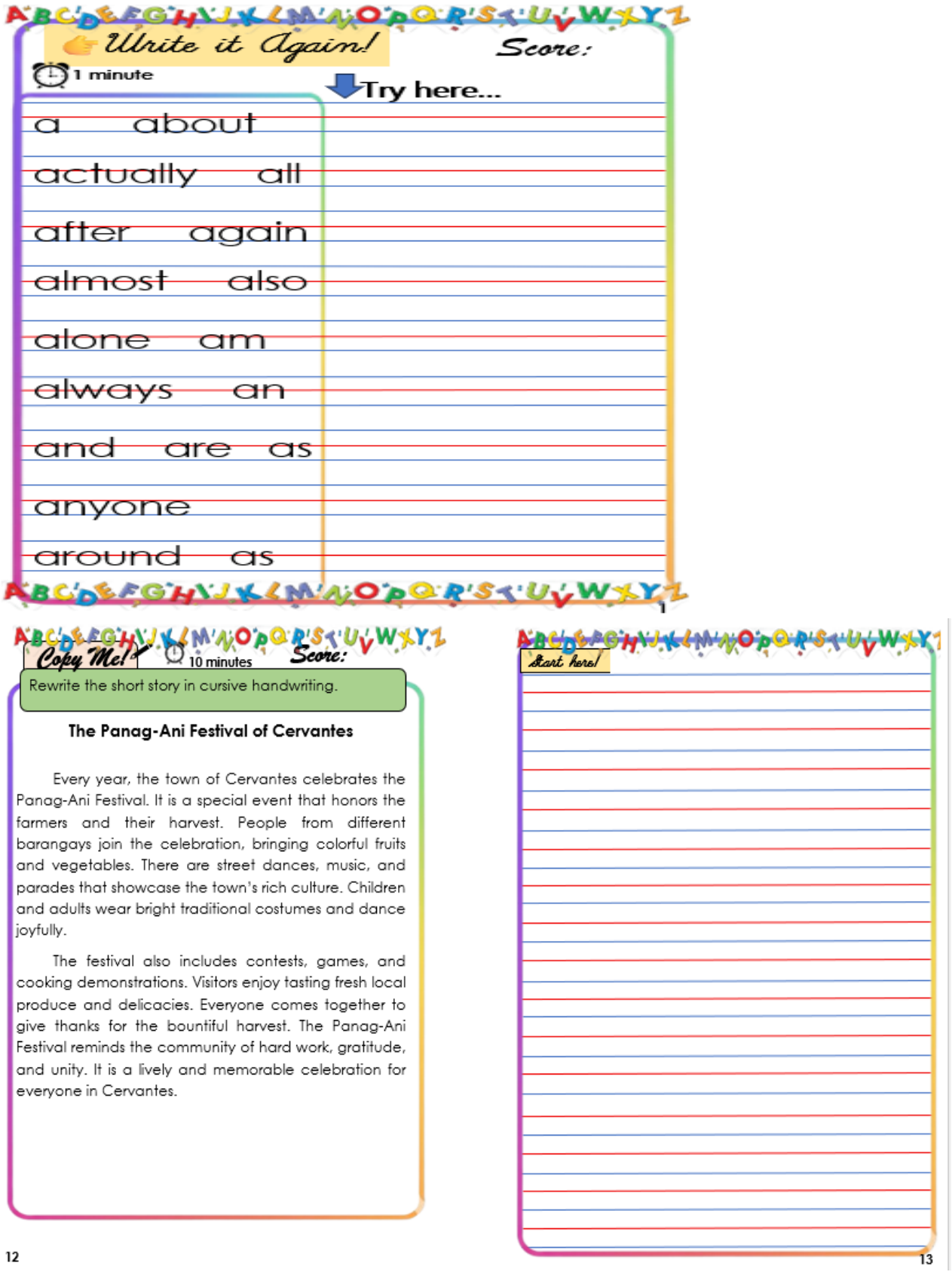


Figure 9. Level 3: Cursive Writing of Words and Stories

Level 3 emphasizes fluency, smooth letter connections, and expressive writing. Contextualized tasks encourage learners to apply cursive in real-life and meaningful contexts, consolidating the skills from the previous levels. Through deliberate practice and structured feedback, learners achieve automaticity, smoothness, and confidence, demonstrating fluent and legible cursive handwriting suitable for both academic and personal use.

Quality of the Developed Output

Factor	Weighted Mean	Descriptive Equivalent
1. Content	3.83	Very Satisfactory
2. Format	3.94	Very Satisfactory
3. Presentation and Organization	3.92	Very Satisfactory
Overall mean	**3.89**	**Very Satisfactory**
1. Accuracy and Up-to-datedness of Information	**4.00**	**Not Present**

The table shows that the evaluation of the Sequential Cursive Handwriting Tool-6 by teacher validators revealed an overall weighted mean of 3.89, described as "Very Satisfactory", indicating that the output is highly effective and appreciated as a structured, learner-centered tool for Grade 6 cursive handwriting development. This positive validation aligns with research showing that teacher-validated instructional materials using systematic design models demonstrate high effectiveness ratings and significant learning gains (Cabrillas, 2025; Santangelo & Graham, 2022). This implies that structured validation processes and evidence-based design principles ensure materials meet educational standards and enhance program effectiveness.

Furthermore, studies demonstrate that validated cursive handwriting tools using objective measurement systems show strong potential for improving student writing performance and readiness (Toffoli *et al.*, 2025; Advanced Therapy Clinic, 2025). This implies that teacher validation is a reliable predictor of instructional success and that validated tools are positioned to achieve measurable student outcomes.

Finally, Gargot *et al.* (2023) confirm that well-designed pre-scriptural tasks can accurately diagnose and predict handwriting disorders, suggesting that validated tools have strong educational utility. This implies that teacher validators recognized the diagnostic and instructional potential of the Sequential Cursive Handwriting Tool-6 for addressing cursive handwriting challenges at the Grade 6 level.

The Content factor received a weighted mean of 3.83, described as "Very Satisfactory". This means that the material is appropriate for students' developmental level, contributes to achieving learning objectives, and engages learners effectively. This is supported by Waldorf Education (2025), OCDSB (2025), and Florida Senate (2026), who emphasize that inclusive, culturally responsive materials enhance learner motivation and participation. This implies that the content of the tool encourages meaningful engagement and supports the development of essential cursive skills.

The Format factor garnered a weighted mean of 3.94, described as "Very Satisfactory". This means that the visual design, layout, illustrations, paper quality, and overall handling are suitable for Grade 6 learners. According to Van der Weel & Van der Meer (2024), Wiley & Rapp (2021), Marano *et al.* (2025), Askvik *et al.* (2020), and Guilbert & Fernandez (2024), who state that well-structured and visually clear materials improve learning efficiency and reduce cognitive load. This implies that the tool's format facilitates correct letter formation, smooth practice, and fluency development.

The Presentation and Organization factor received a weighted mean of 3.92, described as "Very Satisfactory". This means that the tool is logically organized, easy to follow, and allows learners to navigate activities smoothly. As noted by Chameleon Creator (2025), Australian Education Research Organization (2023), and Digital Learning Institute (2023), who note that coherent and sequenced instructional resources improve comprehension and skill acquisition. This implies that learners can complete activities step by step, which enhances confidence and mastery in cursive writing.

The Accuracy and Up-to-datedness of Information factor garnered a perfect weighted mean of 4.0, described as "Not Present". This means that the tool is free from conceptual, factual, grammatical, typographical, and obsolete errors. This finding is supported by Longcamp *et al.* (2023), Hutchinson *et al.* (2023), and Bartov *et al.* (2024), who emphasize that error-free instructional materials improve comprehension and learning outcomes. This implies that students can practice cursive writing confidently and develop fluency without risking the learning of incorrect forms or concepts.

Overall, the Sequential Cursive Handwriting Tool-6 is a highly effective resource for Grade 6 learners. Its content, format, presentation, and accuracy collectively demonstrate that it can support learners in developing fluent, readable, and confident cursive handwriting (Zaner-Bloser, 2025; Waldorf Education, 2025; Santangelo & Graham, 2022). This implies that the tool can be implemented in classrooms to foster meaningful engagement, accurate practice, and positive learning outcomes.

CONCLUSIONS

Based on the results, the following conclusions are drawn:

1. Grade 6 teachers in Cervantes District possess diverse backgrounds in terms of age, years in service, and educational attainment. These characteristics reflect a teaching workforce that is generally capable of supporting cursive handwriting instruction in the classroom.
2. Teachers in Cervantes District view cursive handwriting as an essential component of literacy development. They recognize its role in improving learners' spelling, reading, memory, and fine motor skills, indicating a strong appreciation of its educational value.
3. Although teachers in Cervantes District value cursive handwriting, its use in classroom instruction is not consistently practiced. This suggests that cursive writing is treated as a supplementary skill rather than a regular component of daily learning activities.
4. Across Cervantes District, teachers demonstrate a common recognition of the importance of cursive handwriting, suggesting that its value is widely shared regardless of individual differences.
5. The manner in which cursive handwriting is required in Cervantes District reflects a generally uniform pattern of classroom practice, indicating that its implementation is shaped by prevailing instructional conditions within the district.
6. In the Cervantes District, the development of learners' cursive handwriting skills highlights the need for structured and guided instruction to achieve improved proficiency.
7. Grade 6 learners in Cervantes District demonstrate developing cursive handwriting proficiency, indicating the need for continuous and focused instructional support to attain fluency, accuracy, and consistency.
8. The Sequential Cursive Handwriting Tool-6 was developed in response to the identified needs within Cervantes District, providing a structured and context-appropriate instructional material to support teachers and improve learners' handwriting skills.

RECOMMENDATIONS

1. Teachers may collaborate and share effective handwriting strategies and classroom practices to maximize their professional experience and instructional competence.
2. Teachers may translate their positive perception into consistent classroom practice by embedding cursive handwriting activities in daily instructional routines.
3. Teachers may consistently integrate structured cursive writing activities across subject areas to ensure regular practice and reinforcement of handwriting skills among learners.
4. The district may conduct professional development activities that present unified, research-based perspectives on the cognitive and academic benefits of cursive handwriting to ensure consistency in instructional views regardless of educational attainment.
5. School principals may monitor the implementation of cursive writing activities in classrooms to ensure consistency and alignment with literacy objectives.
6. Teachers may implement explicit and guided handwriting instruction focusing on proper letter formation, spacing, alignment, and writing fluency to improve learners' overall cursive proficiency.
7. Teachers may provide remedial and enrichment activities for learners who demonstrate difficulties in cursive handwriting to strengthen foundational motor and writing skills.
8. The district may pilot-test and evaluate the Sequential Cursive Handwriting Tool-6 program to determine its effectiveness before full implementation across Grade VI classes.

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