Effectiveness of Cursive Writing in Developing Grade 3 Pupils Fine Motor Skills in the Face-To-Face Class in Doña Rosario Elementary School.

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ABSTRACT

This study examined the effectiveness of cursive writing instruction in enhancing the fine motor skills of Grade 3 pupils in face-to-face classes at Doña Rosario Elementary School. Using a mixed-method experimental design, two groups were compared: a control group that continued with regular handwriting practice and an experimental group that received structured cursive writing instruction. Pre-test and post-test tasks assessed sentence writing, paragraph writing, and narrative writing. Results revealed that the experimental group achieved significantly greater improvements (gains of +5.80 to +6.25) compared to the control group (+1.55 to +1.90). A t-test indicated a statistically significant difference between groups ($p < 0.001$), confirming that cursive writing positively enhances writing fluency, hand coordination, and stroke control. Qualitative feedback from teachers supported these findings, highlighting increased confidence and smoother writing performance among pupils exposed to cursive instruction. The study concludes that cursive writing is an effective tool for improving fine motor development and writing proficiency in Grade 3 learners.

Keyword: Cursive Writing, Fine Motor Skills, Writing Fluency, Instructional Materials, Early Childhood Education

INTRODUCTION

In the recent educational years, the role of cursive writing in the classroom is to shape the cognitive and the motor skill development remains a subject in different inquiry and debate. According to Ardiyatno et al, (2023) The beginning of the writing skills for young learners are very important to cater, such as how to write in cursive writing letters. As the new generations, we change more toward digital styles for our communication and information, and the traditional forms of handwriting. Amidst this issue, they are questions of whether cursive writing instruction effectively contributes to the development of fine motor skills among the grade 3 pupils within face-to-face classrooms.

The developmental importance of fine motor skills in the early years of early education cannot be exaggerated. These skills, including the exact synchronization of small muscles in the tasks such as the handwriting, drawing, controlling objects, and the form of the basis for different academic and life skills. They found that when they write by hand using a digital pen on a touchscreen, the brain areas in the parietal and central regions showed event-related synchronized activity in the theta range. (Ashvik, Ruud van der Weel, et al, 2020). In the new era of technology and digital standardized testing, one might question the practicality of teaching cursive handwriting to early learners (Mayer et al., 2020). Against this setting, handwriting instruction, especially in cursive form, has traditionally been viewed as a means of honing fine motor skills among elementary school students. Advocates argue that the detailed and continuous movements required in cursive writing engage and strengthen the muscles of the hand and wrist, fostering skill and control. Moreover, people suggest that the flexibility and rhythm inherent in cursive writing may enhance cognitive processes such as memory and attention, further strengthening academic performance.

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In line with these the researchers aims to determine the Effectiveness of Cursive Writing in Developing Grade 3 Pupils Fine Motor Skills in the Face-to-Face Class. This research sought the following: (a) Instructional Materials as a Strategy, and (b) Cursive Writing Skills.

Statement of the Problem

This study generally aimed to evaluate and determine the Effectiveness of Cursive Writing in Developing Grade 3 Pupils Fine Motor Skills in the Face-to-Face Class in Doña Rosario Elementary School.

Specifically, this research study aims to answer the following questions.

What is the level of evaluation of the instructional materials as a strategy in improving cursive writing skills based on:

1.1 content;

1.2 relevance;

1.3 adaptability; and

1.4 instructional quality?

What is the level of cursive writing skills of the Grade 3 pupils in both the control and experimental groups based on:

2.1 sentence writing,

2.2 paragraph writing, and

2.3 narrative writing?

Is there a significant difference between the control and experimental groups in terms of fine motor skill development after the intervention?

Based on the findings, what intervention may be proposed?

THEORETICAL FRAMEWORK

This study is anchored on Jean Piaget's Cognitive Theory, which explains how children construct knowledge through active experiences. Writing, especially in cursive form, requires coordination, planning, and structured repetition, processes aligned with Piaget's stages of cognitive development. Grade 3 pupils, who fall under the concrete operational stage, benefit from hands-on activities that strengthen fine motor skills and support cognitive growth.

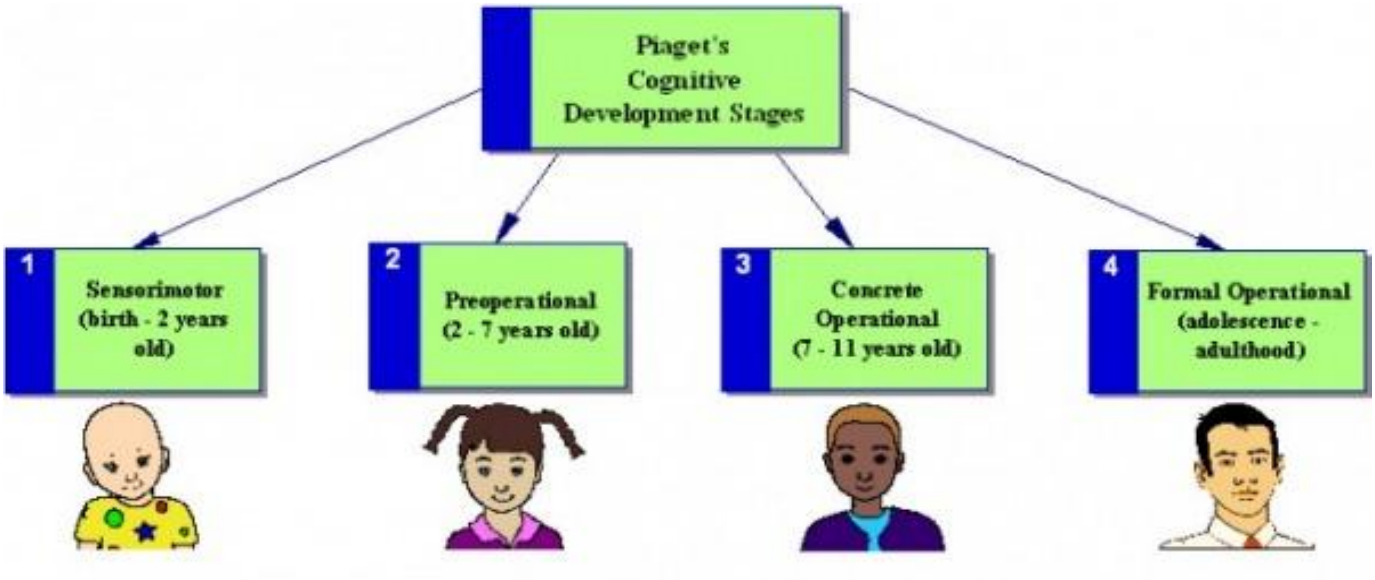

Figure 1. Theoretical Framework

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CONCEPTUAL FRAMEWORK

Figure 2. Conceptual Framework

Figure 2 presents the conceptual framework of the study. It consists of two variables, Cursive writing instruction as an independent variable and fine motor skills as the dependent variable.

In Figure 2. As an independent variable, cursive writing instruction refers to the practice and teaching of writing in cursive script. In this research tool, cursive writing instruction is the independent variable since it is the primary variable being altered to observe how it impacts the development of fine motor skills.

The ability to utilize small muscle groups, particularly those in the hands and fingers, to carry out accurate and coordinated activities, is another factor that determines the development of fine motor abilities.

REVIEW OF RELATED LITERATURE

Instructional Materials as a Strategy

As per Al-Kahlan, T., B., S. & Ahmad, M., A. & Khasawneh, A., S. (2023) Advantages of using the Interactive Whiteboard as an Educational Tool from the Point of View of Middle School Teachers in Asir Region. They examine middle school teacher views on the advantages of using the IWB in the classroom in the Asir region. The design that they use are descriptive design and quantitative technique, with the questionnaire serving as the primary data collection tool, to accomplish the study's aims. A convenience sample of 312 teachers were used for the research. The study result was the IWB had significant benefits for the classroom in terms of the instructor, the material being taught, the method being used to teach it, and the students themselves.

According to Suggate, Sebastian P., Karle, V., L., Kipfelsberger, T. & Stoeger, H. (2023)The effect of fine motor skills, handwriting, and typing on reading development.They discuss the contribution of motor skills and processes to learning to read has a long history.Preceding work is essentially divided into two separate strands, namely the contributions of fine motor skills (FMS) to reading and the influence of writing versus typing. In the current 2 2 3 mixed, single-blind, and randomly designate experiment, we tested both strands together. A total of 87 children learned to decode pseudowords in either typing or writing conditions in which their FMS were either impaired or not. The study result was FMS and working memory predicted decoding gains. Importantly, children performed best when typing if in the impaired FMS condition. Results have implications for motor representation theories of writing and for instruction of children with FMS impairments.

Based on Mayer, C., Wallner, S., Spengler, N., B. Braunert, S. Arndt, P., A. & Kiefer, M.(2020). Literacy Training of Kindergarten Children With Pencil, Keyboard or Tablet Stylus: The Influence of the Writing Tool on Reading and Writing Performance at the Letter and Word Level was comparing the digital writing devices are increasingly replacing handwriting with pencil and paper. There was a test on the influence of the writing tool on the acquisition of literacy skills at the letter and word level with various tests in a large sample of kindergarten children (n = 147). Through writing with a stylus on a tablet computer, or by typing letters using a virtual keyboard on a tablet across 7 weeks. Training using a stylus on a touchscreen is an interesting comparison for traditional handwriting, because the slippery surface of a touchscreen has lower friction than paper and thus increases difficulty of motor control. The results of study suggested that handwriting with pencil fosters acquisition of letter knowledge and improves visuo-spatial skills compared with keyboarding.

According yi Askiv, O., E., Ruud, F., R., Weel, V., A. & Audrey, L., H.(2020). The Importance of Cursive Handwriting Over Typewriting for Learning in the Classroom: A High-Density EEG Study of 12-Year Old Children and Young Adults.Examine the writing by hand, type or draw. They want to know what is the most effective way of writing. The traditional writing was replacing modern gadgets by typing on its devices. The researcher observed 12 year olds by comparing them to young adults. They found similar activation patterns in

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the parietal areas, in addition to event-related desynchronization in the alpha/beta range, suggesting both similarities but also slight differences in activation patterns when drawing and writing by hand. When typewriting on a keyboard, we found event-related desynchronized activity in the theta range and,to a lesser extent, in the alpha range in parietal and central brain regions.

According to the study of Ridha, S., Putri, E., Kamil, P., A. Utaya, S., Bachi, S. & Handoyo, B. The importance of designing GIS learning material based on spatial thinking(2020)they want to discuss the importance of designing GIS learning material based on spatial thinking. The GIS material helps to develop the learning by these concepts of space to explain the theory to representation of application and reasoning. This study used a descriptive qualitative approach. Data were collected through observation and questionnaire. Data were analyzed by doing reduction and descriptive statistics. The result of calculating the score of the learning material is 77 percent. It means that GIS learning material based on spatial thinking is needed by the student in learning geography. Program are prospective teachers who will teach GIS to students at schools at College students in Geography Education. Moreover they need to develop GIS learning material based on spatial thinking.

Cursive Writing

According to Morales-Rando, C., Pérez-Jorge, D., Strbová, L., & Ariño-Mateo, E. (2021). This study showed actual progress in writing, and teachers should be able to choose what a child can do. And it is said here that making cursive letters in elementary school has become better. and making cursive letters was more effective for the students to learn to write because it is what they are more prepared for. And they already know at their age.

According to Fajarwati, A. L., Sudiyanto, & Rukayah (2020), It is said in this study that students have difficulty with cursive writing, and when they write, they go beyond the line. And experienced a struggle due to their lack of knowledge when it comes to cursive writing. This had an effect on students who knew little about cursive writing.

According to Arasyid, H., Widosari, A., & Amini, M. (2022). In this study, there is a manual provided in cursive writing for grade school. And the manual helped the students, so it was effective, aimed to enhance the cursive writing, and for better improvement when it comes to the students, it expanded their knowledge of this.

According to Semeraro, C., Coppola, G., Cassibba, R., & Lucangeli, D. (2019). This study focuses on preschoolers and how they start to write because, when we say preschool, they are still really slow to write for their age. And the teacher must properly demonstrate how to do it correctly. Even in connecting letters. And this study examined the effectiveness of teaching cursive writing. It was effective because it needed encouragement from techniques and strategies, with an especially strong focus on cursive writing. And for teaching, it must be aligned with how to write correctly. Preschool students are really struggling because they are just starting.

According to Rahmawati, F., & Puspita, E. (2024). This study focuses on building on the enhanced knowledge of cursive writing among the grade II students, and it is said in this paper that the cursive writing should be improved by the students and they should be knowledgeable, thus the cursive writing.

Definition Of Terms

To facilitate the understanding of this study, different terms are defined herein.

- **Cursive**: Cursive is a style of writing that has joined letters written with the help of loops. The main objective is to write without lifting the writing instrument, such as a pen or a pencil. It helps in writing with speed.
- **Fine Motor**: Fine motor refers to the smaller muscle it includes (hand, finger ,thumb and etc.)
- **Instructional Materials**: This instrument is needed for the students to learn more may consist of books, supplies that students can use to the class.
- **Intervention**: We can use the intervening application of cursive writing instruction in traditional classroom environments to enhance the fine motor skills of third-grade pupils.

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- **Pre-test**: Before the intervention, this is the way to assess the student's use of cursive writing instruction in fine motor skills.
- **Post-test**: This is the way to evaluate cursive writing as an intervention to see how far they have come in fine motor skills.
- **Writing**: skill of marking coherent words on paper and composing text.

Significance of the Study

The results of this study will benefit the following:

Students- This study will help the students to develop their fine motor skills through cursive writing methods.

Teachers- The teachers could help each other to create a plan about the different instructional methods for students. The findings of this study can also be helpful for them to enhance their teaching and for them to integrate instructions for students

Parents and Guardians- For parents and guardians, they can encourage their children to develop fine motor skills. The results of this research can also help them to understand the significance of cursive writing and early childhood.

Future Researchers- This study can open the door for future researchers who have the courage to study about this and the findings of this study can help them to learn more about cursive writing instruction in early childhood.

Limitations of the Study

This study focused on teacher perceptions and student performance within one school. Individual differences such as home environment, learner readiness, and prior exposure may affect results.

MATERIALS AND METHODS

Research Locale

The study was conducted inside the school premises of Doña Rosario Elementary School during the school year 2023-2024.

A map illustrating the location of Doña Rosario Elementary School.

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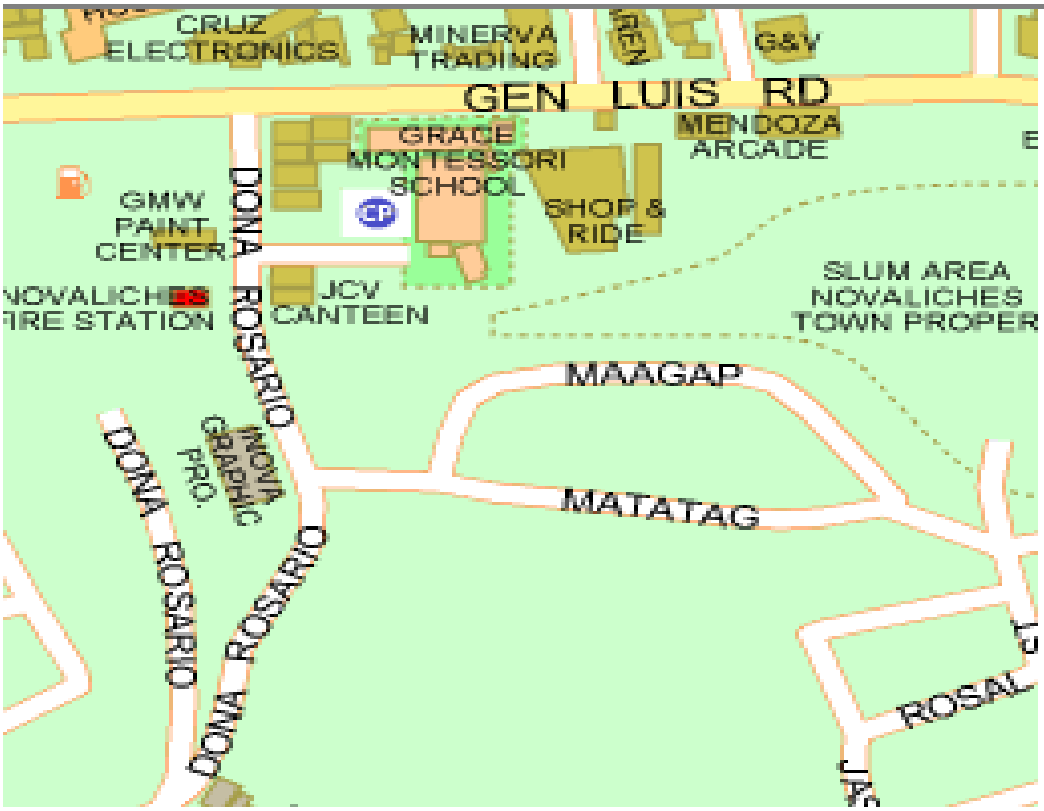

Figure 3.

Participants of the Study

The participants were 49 Grade 3 pupils from Doña Rosario Elementary School during the School Year 2023–2024. The pupils were assigned into two groups within the same grade level section:

Control Group (n = 24): Received regular handwriting activities.

Experimental Group (n = 25): Received structured cursive writing instruction.

The grouping ensured that both groups came from one section, allowing similar classroom environment, teacher exposure, and instructional time.

Sampling Method

The study used purposive sampling, selecting pupils enrolled in the same Grade 3 section to ensure:

- homogenous learning conditions,
- equal teacher influence, and
- controlled comparison between groups.

Assignment to control and experimental groups was done randomly to avoid bias and ensure fairness.

Research Design

This study employed a mixed-method experimental design using both quantitative and qualitative approaches. A pre-test–post-test control group design was used to determine the effectiveness of cursive writing instruction on the fine motor skills of Grade 3 pupils. Qualitative feedback from teachers supported the quantitative results.

Research Instruments

Writing Performance Test

A researcher-made writing test was used to measure students' performance in:

- sentence writing,
- paragraph writing, and
- narrative writing.

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Each task was scored using a rubric assessing:

✓ letter formation

✓ stroke control

✓ spacing

✓ readability

✓ writing fluency

Teacher Observation Checklist

Used to gather qualitative feedback on pupils' handwriting behavior such as grip, posture, hand control, and speed.

Intervention Procedure

The study was conducted over seven weeks. During the first week, both groups completed a pre-test to establish baseline performance. The intervention occurred over Weeks 2 to 6, where the experimental group participated in structured cursive writing sessions three times per week for 30 minutes each. Lessons focused on forming basic cursive strokes, writing upper- and lowercase letters, connecting letter pairs, and composing words, sentences, and short paragraphs. Motor skill reinforcement activities, such as finger dexterity exercises and tracing patterns, were also included. The control group, however, continued with routine handwriting lessons without explicit cursive instruction. By Week 7, both groups completed the post-test using the same writing assessment tool administered earlier.

Ethical Considerations

For ethical research considerations, before the study will be conducted, the respondents will receive a detailed briefing and key information about the purpose of the study. Through informed consent, the respondents shall willingly decide to take part in the study. In order to guarantee anonymity, secrecy, and the avoidance of potential harm, and handle with the utmost confidentiality by not disclosing the names and identity of the research participants in accordance with RA 10173, generally known as the Data Privacy Act.

Data Analysis

The data was collected from the grade 3 students in Dona Rosario Elementary school. This study used Mixed Method Approach to accurately know the results for this study.

RESULTS & DISCUSSION

This section presents the outcomes of the study conducted among Grade 3 pupils of Doña Rosario Elementary School. The study measured the effectiveness of cursive writing instruction on pupils' fine motor skills by comparing the pre-test and post-test performance of the control group and the experimental group.

Table 1. Mean Pre-Test and Post-Test Scores Scores are out of 20 points.

Writing Skill	Group	Pre-test Mean	Post-test Mean	Mean Gain
Sentence Writing	**Control**	**8.45**	**10.20**	**1.75**
	Experimental	**8.60**	**14.85**	**6.25**
Paragraph Writing	**Control**	**7.10**	**9.00**	**1.90**
	Experimental	**7.25**	**13.40**	**6.15**

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Narrative Writing	**Control**	**6.55**	**8.10**	**1.55**
	Experimental	**6.70**	**12.50**	**5.80**

- Both groups improved, but the experimental group achieved significantly higher gains across all writing tasks.
- The largest improvement was seen in sentence writing (+6.25), indicating that the learners quickly adapted to the flowing and continuous strokes in cursive.
- The control group had only minimal gains (+1.55 to +1.90), showing that regular writing activities did not produce the same level of fine motor skill development.

A t-test was conducted to determine if the improvement of the experimental group was significantly higher than that of the control group.

Result: $t(58) = 4.92$, $p < 0.001$

This means the difference is statistically significant, proving that cursive writing instruction positively affects fine motor skill development.

The findings of the study revealed that cursive writing is effective in developing the fine motor skills of Grade 3 pupils. The experimental group, which received explicit cursive writing instruction, showed substantial improvement in sentence, paragraph, and narrative writing tasks compared to the control group. The flowing movements of cursive writing appear to strengthen hand-finger coordination, accuracy, and control. This supports Mayer et al. (2020), who stated that handwriting activities enhance visuo-motor skills more effectively than typing or non-structured writing tasks. Likewise, Askvik et al. (2020) found that writing by hand activates brain areas responsible for motor development and memory.

Teachers also reported that students in the experimental group became more confident, wrote faster, and committed fewer erasures. This aligns with Morales-Rando et al. (2021), who emphasized that early cursive instruction leads to better writing fluency and legibility. Overall, the results demonstrate that cursive writing is not only a literacy skill but also a developmental tool that enhances precision, control, and coordination, key components of fine motor skills.

CONCLUSION

The experimental group demonstrated notable gains in writing fluency, stroke control, hand coordination, and overall writing performance. Statistical analysis confirmed that the improvement was significant, indicating that cursive writing contributes positively to early childhood motor development. Thus, the use of cursive writing instruction is recommended as an essential component of fine motor skill development in Early Childhood Education. Therefore, the researchers conclude that integrating cursive writing into classroom instruction is beneficial and should be encouraged to support motor development and writing proficiency among young learners.

RECOMMENDATION

The study recommends conducting regular cursive writing workshops for pupils to help strengthen their handwriting skills. It is also important to integrate structured cursive writing lessons in the early grade levels so that learners can develop proper writing habits at a young age. To support this, teachers should be provided with adequate training and instructional materials that will help them effectively implement the program. Finally, the cursive writing initiative should be extended to other grade levels to allow for broader assessment and continuous improvement of learners' writing proficiency.

REFERENCES

1. Al-Kahlan, T., B., S. & Ahmad, M., A. & Khasawneh, A., S. (2023) Advantages of using the Interactive Whiteboard as an Educational Tool from the Point of View of Middle School Teachers in Asir Region. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Advantages+of+using+the+Interactive+Whiteboard+as+an+Educational+Tool+from+the+Point+of+View+of+Middle+School+Teachers+in+asir+region&oq=Advantages+of+using+the+Interactive+Whiteboard+as+an+Educational+Tool+from+the+Point+of+View+of+Middle+School+Teachers+in+Asir+Reg#d=gs_qabs&t=1715420046096&u=%23p%3DSMk7vKNZ-nkJ
2. Ardiyatno., H, Rochmiyati., S, Rahmawati,. M. (2023). Improving Cursive Writing Skills Through a Project Based Learning Model for Grade 2 Elementary School Students in Yogyakarta, Indonesia. International Conference For Teachers. Vol. 1 No. 1. https://seminar.ustjogja.ac.id/index.php/ICoTPE/article/view/1047/588
3. Askiv, O., E., Ruud, F., R., Weel, V., A. & Audrey, L., H.(2020). The Importance of Cursive Handwriting Over Typewriting for Learning in the Classroom: A High-Destiny EEG Study of 12-Year Old Children and Young Adults. Vol. 11. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2020.01810/full?ref=jeremyajorgensen.com
4. Askvik, Eva & van der Weel, Frederikus & Van der Meer, Audrey. (2020). The Importance of Cursive Handwriting Over Typewriting for Learning in the Classroom: A High-Density EEG Study of 12-Year-Old Children and Young Adults. Frontiers in Psychology. 11. 10.3389/fpsyg.2020.01810.
5. Arasyid, H., Widosari, A., & Amini, M. (2022). Development of cursive writing learning textbooks for Lower-Grade Elementary School students. Pedagogik Journal of Islamic Elementary School, 5(2), 185–198. https://doi.org/10.24256/pijies.v5i2.3049
6. Bonneton-Botté, N., Beucher-Marsal, C., Bara, F., Muller, J., Corf, L. L., Quéméneur, M., & Dare, M. (2019). Teaching cursive handwriting: A contribution to the acceptability study of using digital tablets in French classrooms. Journal of Early Childhood Literacy, 21(2), 259–282. https://doi.org/10.1177/1468798419838587
7. Fajarwati, A. L., Sudiyanto, & Rukayah. (2020). The Cursive Writing Learning Methods in Curriculum 2013 in the Primary School of Sragen. Proceedings of the 4th International Conference on Learning Innovation and Quality Education. https://doi.org/10.1145/3452144.3453740
8. Mayer, C., Wallner, S., Spengler, N., B. Braunert, S. Arndt, P., A. & Kiefer, M.(2020). Literacy Training of Kindergarten Children With Pencil, Keyboard or Tablet Stylus: The Influence of the Wrting Tool on Reading and Writing Performance at the Letter and Word Level. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2019.03054/full
9. Morales-Rando, C., Pérez-Jorge, D., Strbová, L., & Ariño-Mateo, E. (2021). Manuscript vs cursive writing. Learning to write in primary education. Education 3-13, 50(7), 880–892. https://doi.org/10.1080/03004279.2021.1916053
10. Semeraro, C., Coppola, G., Cassibba, R., & Lucangeli, D. (2019). Teaching of cursive writing in the first year of primary school: Effect on reading and writing skills. PloS One, 14(2), e0209978. https://doi.org/10.1371/journal.pone.0209978
11. Suggate, Sebastian P., Karle, V., L., Kipfelsberger, T. & Stoeger, H. (2023)The effect of fine motor skills, handwriting, and typing on reading development. Vol.232. https://www.sciencedirect.com/science/article/pii/S0022096523000504?ref=pdf_download&fr=RR-2&rr=8821267f1de20a88
12. Rahmawati, F., & Puspita, E. (2024). The development of TABElI Media Learning Strategy (Writing Learning Savings) to improve the writing skills for elementary school student. Perspektif Ilmu Pendidikan/Perspektif Ilmu Pendidikan, 38(1), 104–115. https://doi.org/10.21009/pip.381.10
13. Ridha, S., Putri, E., Kamil, P., A. Utaya, S., Bachi, S. & Handoyo, B. The importance of designing GIS learning material based on spatial thinking(2020). https://iopscience.iop.org/article/10.1088/1755-1315/485/1/012027/pdf?fbclid=IwZXh0bgNhZW0CMTEAAR2hXkm1dWQu5C2RpfnzMxQ5XC2_h6Vkx8E0L0_yK3tIM0xPibfQRGoj2Ws_aem_ARsLTqLsWWrXUGLQr7-iBVPk0n-zxp6n0AAtm8_nreYUQoLuoMYdHQ5suHZjrYIpdnzDDsxYJzEmPG1QPQoZHJ_W.