

# GROSS MOTOR INTERVENTIONS TO IMPROVE HANDWRITING IN EARLY YEARS CLASSROOMS

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## Introduction

Handwriting is a fundamental skill in early education, but many young children struggle due to underdeveloped motor control. Legible writing requires coordination of the whole body, not just finger dexterity. Inadequate gross motor development can make letter formation challenging for young learners. In a Foundation Stage Two classroom, many students produced uneven letters, mixed-up stroke order, and inconsistent spacing of letters. These issues can hinder literacy progress, writing enjoyment and confidence. Research suggests that physical activities supporting posture and body awareness can enhance writing skills (Akin, 2019; Wawrzyniak et al., 2021). To explore this, daily gross motor activities consisting of short movement breaks, dance, yoga, and active transitions were embedded into the classroom before writing tasks. This project aimed to investigate: How does daily gross motor activity impact handwriting in an early years classroom?

### Background of the Problem

Traditional handwriting instruction in early years classrooms typically involves fine motor tasks like repetitive tracing of letters albeit in multisensory ways. Despite this, many children continued to show poor writing control. Common issues included reversed letters, difficulty crossing the midline and uneven letter sizing. These challenges pointed to underdeveloped postural control and bilateral coordination. Left unaddressed, such difficulties can persist beyond early years and affect writing fluency, motivation, and confidence. Rather than adding more fine motor practice, this project explored whether improving gross motor skills could better prepare the body for writing.

## Literature Review

A growing body of research supports the link between physical development and handwriting ability. Akin (2019) found that grade 1 students participating in physical education-based motor interventions made significant improvements in writing quality and interest. The activities focused on core strength, bilateral integration, and coordination, which translated into improved pencil control and posture. Similarly, Wawrzyniak et al. (2021) found that integrating physical and academic skills through the Eduball programme significantly enhanced graphomotor performance in primary students. Despite this, many early years classrooms still rely on static fine motor practice. There is limited research on whether short, daily gross motor routines integrated into classroom life can yield similar benefits. This project sought to explore that possibility in an early years context.

## Methods

This study followed an action research model to investigate whether daily gross motor activity could improve early handwriting outcomes. Action research was chosen for its flexibility and relevance to classroom-based practice. The core question guiding this enquiry was: How does daily gross motor activity impact handwriting in an early years classroom?

### Methodology

The intervention took place over three months (January–March) in a class of 17 students aged 4–5. A variety of gross motor activities were used including music and movement breaks, yoga sequences, and active transitions between lessons. These were delivered daily before writing and at other intervals throughout the day. No additional fine motor training was provided. Progress was tracked through regular classroom writing activities, with samples reviewed before and after the intervention period.

## Participants

The sample consisted of 17 mixed-gender Foundation Stage 2 students in an international early years setting. All children participated in the intervention and their handwriting progress was included in the review. No additional supports or exclusions applied during the project.

## Data Collection

Handwriting progress was monitored using a simple handwriting checklist and comparison of students' writing books. Pre- and post-intervention samples were reviewed using a teacher-designed rubric, focusing on letter formation, spatial layout, and baseline alignment. Informally, the rubric included attention to stroke direction, size consistency and placement of letters. This provided a consistent lens for evaluating visible changes across the class.

## Data Analysis

Samples were analysed through visual comparison guided by the checklist and rubric criteria. The focus was on qualitative shifts in letter clarity, consistency, and presentation. While the rubric was not used for numerical scoring, patterns of improvement were evident across the cohort.

## Results

The following improvements were observed across the group:

- Letter formation: A greater number of students demonstrated accurate, consistently shaped letters. There were fewer reversals and better control of stroke direction.
- Spatial organisation: Letter and word spacing became more even, and alignment on the baseline improved.
- Posture and focus: Students generally appeared calmer and more focused after movement breaks, settling quicker and engaging in writing tasks with greater control.

## Discussion and Reflections

The findings align with studies by Akin (2019) and Wawrzyniak et al. (2021), which emphasise the value of movement-based interventions for developing the physical foundations of writing. By embedding short bursts of gross motor activity before writing tasks, students seemed better regulated and physically prepared. Unlike fine motor drills, this whole-body approach supported postural control, bilateral integration, and sensory processing which are all key elements of early writing success.

This project demonstrated that handwriting development should be seen not just as a fine motor skill but as a whole-body task. A shift towards a more holistic view of early years pedagogy that includes movement as part of literacy may benefit a broader range of learners. The strategies trialled were simple, required no specialist equipment, and were easily integrated into the daily routine.

## Conclusion

Incorporating gross motor activities into daily routines enhanced early handwriting performance in this classroom. Improvements in letter formation, spacing, and general presentation were evident across the class. These outcomes suggest that supporting physical development skills can contribute meaningfully to progress in early writing.

However, this was a small-scale study in a single classroom setting. Future

research may benefit from expanded data sets, structured assessments, or long-term tracking.

Nonetheless, the strategy proved practical, easy to adopt and enjoyable for students. It positions handwriting as both a physical and academic process whilst simultaneously highlighting the value of movement for learning.

## References

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