

Full source reference:

Zainol, M., Kadar, M., Razaob, N. A., & Wan Yunus, F. (2022). The Effectiveness of Occupational Therapy Handwriting Intervention for Children with Motor Coordination Issues: A Systematic Review. *Malaysian Journal of Health Sciences/Jurnal Sains Kesihatan Malaysia*, 20(1).

Free access link:

file:///C:/Users/637583/Downloads/JSKM_TheEffectivenessofOccupationalTherapyHandwritingInterventionforChildren.pdf

Article Overview:

This is a systematic review evaluating the effectiveness of occupational therapy interventions in handwriting for children with motor coordination difficulties including DCD, visual-perceptual difficulties, and handwriting difficulties. Ten articles were included in the review.

Key take home messages:

1. Most interventions showed effectiveness in improving handwriting performance in motor function, visual and perceptual components. Handwriting intervention approaches should contained established evidence-based methods namely multisensory, motor, cognitive, task-oriented approaches and therapeutic practice
2. Other outcomes from OT interventions on handwriting that showed a positive impact on handwriting skills are child motivation, involvement of parents, child behaviour and child participation.
3. It is suggested that no specific occupational therapy intervention included in the article appeared to be the best/most effective to improve handwriting skills. Types of interventions used were:
 - Goal oriented approach
 - Sensory-motor approach
 - Combined approach of handwriting, fine motor skills, balance, sensory and perceptual skills and self-confidence
 - Visual perceptual training
 - Handwriting task program (HTP)
 - CO-OP
 - Group-based task oriented on motor physical skills
 - iPad application on visual motor integration skills
 - Online interactive typing intervention
 - "I Can!" Handwriting program
 - Visual, motor, perceptual, sensory, activity of daily living skills, training device and assistive technology and specific handwriting programs.
4. Effective OT intervention to improve handwriting performance is based on 5 key factors:
 - **Dose:** the most ideal dosage ranged from 8 to 48 sessions running between 20 to 60 minutes per session. Notably, a more recent study suggested that handwriting interventions can be effective with at least 15 minutes of 15 therapy sessions with 3-5 times a week.)
 - **Age:** higher effectiveness with younger age groups, in particular between 7 and 10 years
 - **Type of intervention:** Use of technology devices are not recommended. It is recommended to use established evidence-based methods, namely multisensory, motor, cognitive, task-oriented approaches
 - **Targeted outcomes:** Motor function, visual, and perceptual skills are the most important skills components for handwriting performance
 - **Involvement of other support during an intervention.**
 - **Incorporation of the intervention in meaningful occupations** (e.g. within school curriculum) to maximise effectiveness
5. OT intervention should consider a multi-pronged approach to expedite the effectiveness of interventions, such as providing a clinical practice guideline for health professionals, a home programme for parents or a curriculum-based OT intervention for teachers.