QUESTIONS:
1. Is 2 weeks of computerized tracking training effective at improving coordination and hand function?
2. Is any benefit maintained 2 weeks beyond the period of intervention?

DESIGN:
A case series A-B-A multiple baseline design was used. After a baseline observation (Phase A), and a 2-week intervention of computerized tracking training (Phase B) was conducted followed by a 2-week follow-up (Phase A).

PARTICIPANTS:
Six children (age range 7-12 y, 5 girls and 1 boy) with hemiplegic cerebral palsy with level I-III of Manual Ability Classification System (MACS) were recruited from mainstream schools.

METHODS:
Computerized tracking training was a visual pursuit tracking which required the participants to track the movements of a target at either 0-0.6 or 0-0.8 Hz on a computer screen using elbow joint flexion and extension through 55-65 degree of elbow flexion. A maximum of 10x1-min trials were practiced each session covering two target frequencies for 10 sessions over a 2-week period carried out at the participants' home. Coordination was measured through tracking performance using a different target with the frequency between 0-0.8 Hz. Hand function was measured using the 9-Hole Peg Test and the three penciling tests of Bruininks Oseretsky Test of Motor Proficiency-2nd Edition (BOT-2). Data were analyzed using visual inspection and then statistical analyses were performed to support the visual findings using the 2-SD band method.

RESULTS
None of participant appeared improvement in coordination and 9-Hole Peg Test during the intervention and follow-up phases both visually and statically (p > 0.05). About half of participants had the improvement in the three penciling tests of BOT-2 with statistical significance during both the intervention and follow-up phases (p < 0.05).

CONCLUSION: These results of this study suggest that the feasibility of a rehabilitation program comprised of short intensive therapy periods to improve coordination is low. The improvement in the penciling tests indicates that children with hemiplegic cerebral palsy are capable of learning a novel skill. Although these results consistently support the notion that the repetition of meaningful tasks with variable practice can promote the skill acquisition and retention, the sample size was small, suggesting it is necessary to further investigate.

ACKNOWLEDGEMENT: The authors would like to acknowledge the participation of the children and their parents and Yi-Yun Chang being as a blind assessor to make this study possible.

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