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MUSEC Briefings

Macquarie University Special Education Centre

Interactive Metronome© Training

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Statement of the Problem

Many students with special education needs have problems attending and learning. It has been suggested that if motor regulation could be strengthened then the capacity to learn through improved attention may benefit many children. It is claimed that there are underlying relationships between motor regulation and other cognitive functions.

Proposed Solution/ Intervention.

Interactive Metronome© training is an intervention, which is claimed to improve rapid auditory processing. The training is an interactive computer-based program that is based on the traditional music metronome. Participants listen to a reoccurring beat via headphones and match tapping and/or clapping motions to the beat. The participant receives constant real-time auditory feedback from contact-sensing triggers for the hands and feet. The aim is for the user to set off the triggers as close as possible in time to the metronome beat. Improvement in responding accurately to the beat is said to promote more efficient information processing in the brain leading to improved focus.

The theoretical rationale – how does it work?

After training, users are usually much more accurate in responding to the metronome beats. It is claimed that IM can rapidly improve the core brain processes of motor planning, sequencing and timing. This improvement in core brain processes is said to enhance the ability to attend, learn, retain information and apply this information. It is claimed the resulting improved ability to focus will lead to better academic outcomes.

What does the research say? What is the evidence for its efficacy?

There are only a small number of studies published in peer-reviewed articles about the effect of the use of Interactive Metronome training on students with disability. Studies have reported mixed results overall with general improvements in timing and rhythmicity. Some studies have reported improvement in some academic skills such as increases in reading fluency (recognised known words more quickly). The authors of studies are cautious in generalising the results and suggest that further studies with larger sample sizes, as well as studies with a focus on the long-term benefits of the treatment are needed. Well-controlled and designed studies are needed to establish the efficacy or otherwise of IM training as a means of improving academic skills. At present there is insufficient evidence to support IM training as an intervention for improving academic skills.

The MUSEC verdict:

Not Recommended

Key references may be found at:
http://www.musec.mq.edu.au/community_outreach/musec_briefings/

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