# The power of music: its impact on the intellectual, social and personal development of children and young people

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Recent advances in the study of the brain have enhanced our understanding of the way that active engagement with music may influence other activities. The cerebral cortex selforganises as we engage with different musical activities, skills in these areas may then transfer to other activities if the processes involved are similar. Some skills transfer automatically without our conscious awareness, others require reflection on how they might be utilised in a new situation.

## Perceptual, language and literacy skills

Speech and music have a number of shared processing systems. Musical experiences which enhance processing can therefore impact on the perception of language which in turn impacts on learning to read. Active engagement with music sharpens the brain's early encoding of linguistic sound. Eight year old children with just 8 weeks of musical training showed improvement in perceptual cognition compared with controls.

Speech makes extensive use of structural auditory patterns based on timbre differences between phonemes. Musical training develops skills which enhance perception of these patterns. This is critical in developing phonological awareness which in turn contributes to learning to read successfully.

Speech processing requires similar processing to melodic contour. Eight year old children with musical training outperformed controls on tests of music and language.

Learning to discriminate differences between tonal and rhythmic patterns and to associate these with visual symbols seems to transfer to improved phonemic awareness.

Learning to play an instrument enhances the ability to remember words through enlargement of the left cranial temporal regions. Musically trained participants remembered 17% more verbal information that those without musical training.

Children experiencing difficulties with reading comprehension have benefitted from training in rhythmical performance.