



Parent Pages



RESOURCES FOR CHRISTIAN PARENTS IN THE 21ST CENTURY

Life Together: **With Music!**

Wouldn't it be great to find a simple exercise to strengthen our children's brains and make them better learners? We could just schedule 10-20 reps each morning before sending them off to school. As it turns out, there is such an exercise, and the practice is much more pleasant than jumping jacks. Music strengthens the brain.

Music lessons can put a burden on the family's finances and time, but science tells us the benefits are abundant. When children participate in music, they activate both the linguistic/mathematical side and the creative side of the brain. More importantly, they are using the part of the brain that bridges between the two. The result is stronger communication throughout the brain, allowing learners to show improved memory, learning transfer and divergent thinking.

Music enhances memory because it improves information processing. When we process new information, our brains encode it to make it more retrievable. Smells, sights,

emotions, similar information and past experiences are all things attached to new learning. When music uses more parts of the brain, it allows for better information processing. For example, when young children learn the alphabet as a song, they can recall this information as letters and as a musical tune.

Because music connects new learning to encoded memories, it also promotes learning transfer (e.g., using a math concept to solve a science problem). When we learn skills separately, our brains do not automatically transfer that learning. In learning music, students are communicating ideas in a different way from classroom learning. The brain learns how information can apply to different situations.

Learning to play and perform music is practice in problem-solving. In music, a child must consider the idea she is communicating, think about tempo and fluency, and put them all together into one package. This kind



of problem-solving gives children practice in divergent thinking. Divergent thinking is part of creativity. It comes from being able to use many parts of the brain to solve a problem. Sometimes we call this “thinking outside the box.”

An additional benefit of music is the development of executive function skills and self-regulation. These skills make learning possible because they help brains identify potential learning and encode it for future use.

Executive function skills include focus, divided attention and thinking flexibility. Focus is the ability to pay attention regardless of distractions — keeping a steady beat in spite of noises outside or concentrating on a spelling test when the smell of hot lunch preparation fills the room. Divided attention is being able to monitor learning by evaluating the process — remembering to adjust the tempo in playing music or applying punctuation rules while writing an essay. Thinking flexibility is being able to make a necessary change — a musical key change or switching from adding to subtracting while completing a story problem. Musicians use executive function skills continuously while learning, practicing and performing.

Self-regulation is the process of developing control over emotions and behavior. Music promotes self-regulation of behavior because it involves control of motor skills and application of a teacher’s direction. In disciplined practice, children learn to put immediate needs aside to accomplish a larger goal of improving skill. Music develops self-regulation of emotion because children learn to express emotion through music. Additionally, music has a calming effect, helping children to process strong feelings and learn to self-soothe.

Learning music also helps children develop empathy and resilience. Empathy and resilience are forms of emotional literacy that strongly impact learning. When a musician learns how to express emotion in music, he also is learning how to read the emotions of other people. This kind of empathy is abstract thinking — what teachers call a

“higher order thinking skill.” Higher order thinking skills help students use what they know to learn new things independently.

Music students regularly confront mistakes. Teachers point out areas for improvement, and musicians begin to self-evaluate to find the areas that need work. This kind of practice builds resilience. A resilient learner knows that mistakes are part of learning. This process also helps a learner to move from mastery to performance goals. A musician learns that mastering a skill eventually leads to a better performance.

“I will incline my ear to a proverb; I will solve my riddle to the music of the lyre” (Ps. 49:4).

In this verse, the psalmist seems to connect learning to music. Music is a gift from God that builds our learning and enhances our worship.

For Further Study:

Here is a TED-Ed lesson on how music develops the brain: ed.ted.com/lessons/how-playing-an-instrument-benefits-your-brain-anita-collins.



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