# Digital Technologies and Executive Functions



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Using video games and other digital technologies to practice and develop executive functioning skills is an innovative idea that is garnering increasing support in scientific literature. Writers such as James Paul Gee and Mark Prensky have developed theories that demonstrate how video game play improves problem-solving skills. Indeed, many video games require a range of executive functioning and problem-solving skills, such as planning, organization, time management, and cognitive flexibility. Transferring these skills from their practice in games to real-world use is the key to game play becoming more productive.

A number of recent studies indicate that playing problem-solving video games increases the activation of the brain's prefrontal cortex, which leads to improved thinking and analytical abilities. Video games have been demonstrated to improve visual attention and processing speed. Playing memory-based video games has been demonstrated to improve working-memory skills in children.

While video games and other digital technologies are only one

method for improving problem-solving and executive functioning skills, they do have the potential to become a great resource for helping children. Children's engagement with and focus on these games are primary components of effective learning. This fact may be of particular importance regarding those children with attentional and learning problems who struggle in traditional classrooms.

To learn more about how to use video games to improve a child's executive functioning and problem-solving skills, we strongly recommend: LearningWorks for Kids