Executive Functioning Games at Home
Allexa Gaewsky
Advisor: Mary Fuhs, Ph.D.

Introduction

Research Question
Can classroom-based games used to boost children's cognitive skills be adapted to an at-home format? Specifically, will parents want to play these games at home and will they find them useful?

Background:
Executive functioning skills include working memory, inhibitory control, and cognitive flexibility (Garon et al., 2008).

• Working Memory—holding information in mind and manipulating it. (e.g., Children with strong working memories are able to remember the rules to a game.)
• Inhibitory Control—ability to maintain focus despite distractions. (e.g., When children play the freeze dance and do not move when the music is off.)
• Cognitive Flexibility—the ability to adapt cognitive processing strategies to face a new and unexpected condition. (e.g., Changing tasks during the school day—going from recess to reading time.)

Children’s executive functioning skills are important for their adaptation to a learning environment and have been shown to predict their early academic skills (e.g., Fuhs et al., 2014). Therefore, researchers and early education professionals are interested in ways to boost children’s executive functioning skills as a way to prepare them for complex learning environments.

Recent research suggests that common pre-kindergarten games can be adapted to teach children executive functioning skills (Schmitt et al., 2014). However, not all children participate in a pre-kindergarten program and may not have access to these types of activities at home or school. We tested if these games may be useful in a home setting as a way of promoting executive functioning skills. As part of a larger school readiness program for families in Dayton (Taking Off To Success), we provided families with executive functioning games that we adapted to an at-home format. We surveyed parents to see if they played the games, if they enjoyed them, and how they can be improved.

Method

Participants
• 6 families participating in TOTS

Procedure
Executive Functioning games were given to the families each week for four weeks. The games were age specific so they would be relevant to what the child could do or was learning to do.

• Each week the families came to the TOTS program and received a packet with games.
• They took a survey on each game and recorded if they played the games, how many times (between 1 and 5+), if they liked the game, and if they would play the game again. They also had the opportunity to provide comments.

Examples of take-home games:
The Freeze Game
Child dances when music is on and when the music is off He/she stops dancing. When the songs are slow, the child dances slow and when the song is fast, the child dances fast. After the child masters these he/she is told to do the opposite: dance slow to the fast songs and dance fast to the slow songs. (Tominey et al., 2011).

Results and Discussion

• Six parents received the games and completed the surveys.
• Out of the six families, five of them did play the games and really enjoyed them. These results were 83.33% success rate of playing the games. 100% of families that played the game said that their children liked the games.
• The one family forgot about the games which is why they did not play them. The surveys showed that 100% of families who participated said they would play the games again in the future.

Comments from parents about the games...

“It’s a great tool.”

“The games helped child stay out of bad things.”

“Would like other games and skills to help with my kids.”

What we learned from this data is that parents did find these executive functioning games helpful. They, as well as their children, enjoyed playing them and said they would play them again in the future. We will continue these surveys and use them to improve the resources we can give to parents. We also plan to test if children improve their executive functioning skills if they play these games at home with their parents.

References