



## Executive Function Skills in Early Childhood

Executive function skills are a set of cognitive skills that allow us to retain and work with information, focus, attend to tasks and filter distractions. These skills are not present at birth and their foundation is laid in infancy when babies first learn to pay attention. Substantial research suggests dramatic growth occurs between the ages of 3 and 5, and the development of these skills in infancy and early childhood is predictive of academic achievement, health, financial stability, and wellbeing. Children's relationships, the activities they participate in, and the places they live, learn, and play are crucial to building a solid foundation for these essential skills.

**Keywords:** *executive function skills, cognition, early childhood*

### Executive function difficulties present differently in every child

Research shows a strong association between language and executive function skills during early childhood (Kaushanskaya et al., 2017). As language serves to guide cognition and behaviour, studies indicate that language difficulties impact executive functions and are a predictor of later behaviour difficulties in children (Gooch et al., 2015). Executive function difficulties are also commonly found in childhood conditions such as autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), mood and anxiety disorders, as well as intellectual disabilities and learning difficulties (McLean, 2018). Further, early adversity is similarly associated with reduced executive function competence in childhood (McLean, 2018). The presentation of executive function skills varies by individual. A child with ASD may have difficulty with forward planning, goal setting, self-regulation and shifting between tasks; however, a child with ADHD may have difficulty with behavioural inhibition, sustained attention, and self-regulation (Craig et al., 2016).

### Poor executive function skills early childhood might look like:

- Difficulty with emotional regulation and impulse control
- Difficulties starting, organising, planning or completing tasks
- Socially inappropriate behaviour
- Reduced play skills and difficulty interacting with peers
- Difficulty solving problems





- Difficulty listening or paying attention
- Short-term memory difficulties
- Difficulty learning or processing new information.

In early childhood, children act in accordance with their level of brain development, and adults should maintain appropriate expectations for a child's developmental age.

Listed below are evidence-based strategies that adults can utilise to support children with executive function difficulties.

<b>Provide scaffolding</b>	<ul style="list-style-type: none"> <li>• Scaffolding has been linked with increases in incremental learning and children's ability to engage in problem-solving independently.</li> <li>• Adults can set up the framework by establishing routines, providing cues, and breaking big tasks into smaller chunks.</li> </ul>
<b>Develop play skills</b>	<ul style="list-style-type: none"> <li>• Play is known to develop and enhance social interactions, independence, imagination, creativity, language skills, working memory, emotional control, and the ability to follow instructions. Research suggests that children with good play skills demonstrate greater prep readiness and school success.</li> <li>• Adults can support students through intentional imaginary play to develop rules, roles, impulse control and holding complex ideas in their mind.</li> </ul>
<b>Develop language skills</b>	<ul style="list-style-type: none"> <li>• Language skills support children to manage their behaviour, participate in play with others, and help children to understand and follow rules and instructions.</li> <li>• Adults can model their own thought processes, positive self-talk and self-management out loud, and encourage students to reflect on their thoughts.</li> </ul>
<b>Create a safe learning environment</b>	<ul style="list-style-type: none"> <li>• Recent studies have proven that developing children's executive function skills is most successful in learning environments that encourage enjoyment, self-confidence, and the development of social connection.</li> <li>• Adults can help students develop executive function skills by being responsive to children's needs, creating strength-based</li> </ul>



activities, providing encouragement, and promoting opportunities for children to direct their own activities with decreasing adult supervision.

**Activities that build executive function skills in early childhood**

Song and dance	Imaginary play
<ul style="list-style-type: none"> <li>• <i>Freeze dance</i> - play music and have children dance quickly and then slowly (<b>self-regulation, inhibitory control</b>).</li> <li>• Repetitive songs, such as <i>She'll Be Coming 'Round the Mountain</i>, <i>The Alphabet Song</i>, <i>If You're Happy and You Know it</i> (<b>working memory</b>).</li> <li>• Other games include <i>Musical Chairs</i>, <i>Red Light Green Light</i> and <i>Duck, Duck, Goose</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide a variety of props and toys - for younger children more realistic props such as toy medical kits and picnic and cutlery sets help initiate play (<b>cognitive flexibility, organisation, and planning</b>).</li> <li>• Allow children to make their own play props and stories such as playing superheroes, cooking an imaginary meal, or running a shop (<b>attention, working memory, planning</b>).</li> </ul>
Storytelling	Daily activities
<ul style="list-style-type: none"> <li>• Tell group stories – provide a theme or topic and ask one child to start the story, and each person in the group adds to it (<b>attention, inhibitory control, working memory</b>).</li> <li>• Encourage children to tell stories and draw pictures to match the theme of their stories. Write them down to read with the child (<b>organisation, planning, working memory</b>).</li> </ul>	<ul style="list-style-type: none"> <li>• Adults can support children in daily activities such as getting dressed, brushing teeth, cleaning up and getting ready for bed (<b>time management, organisation, task completion</b>).</li> <li>• Adults can support children to follow a recipe, find ingredients and stir mixtures together (<b>inhibitory control, planning, organisation, attention, and shift focus</b>).</li> </ul>



Movement	Board games and card games
<ul style="list-style-type: none"> <li>• Provide opportunities to access climbing structures, balance beams and playgrounds. Other movement includes obstacle courses, skipping and animal walking (<b>attention, monitor and shift focus</b>).</li> <li>• Other games include <i>Hide and Seek</i>, <i>Scavenger Hunt</i>, <i>Tag</i> and <i>Simon Says</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Play a sorting and matching game that children must sort by colour, shape, or texture (<b>working memory, inhibitory control, attention</b>).</li> <li>• An assortment of puzzles increasing in difficulty (<b>attention, working memory, planning</b>).</li> </ul>

### Want to learn more?

To learn more about Language Disorder and how to support children and young people for whom language is their primary disorder, please **contact us**. Language Disorder Australia provides holistic, innovative and effective therapy, education and support services and has a transdisciplinary team of speech pathologists, occupational therapists, educators, psychologists and physiotherapists.

Contact: 1300 881 763 or [hello@languagedisorder.org.au](mailto:hello@languagedisorder.org.au)

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