Self-regulation helps children guide their thoughts, emotions and behaviours to accomplish a goal (such as deciding to finish homework instead of watching TV). The cognitive aspect of self-regulation is called executive function, and includes working memory, inhibitory control and cognitive flexibility. These are important for planning, goal-directed behaviour, following instructions and organizing information.

- **Working memory**: remembering information while manipulating it (for example, mentally subtracting three from five requires working memory as the numbers -3 and 5 - have to be kept in mind while performing the actual calculation)
- **Inhibitory control**: stopping one behaviour and showing a different behaviour instead (choosing to focus on what the teacher is saying in class instead of daydreaming about football)
- **Cognitive flexibility**: switching between different situations (for example, from a lively lunch break to a quiet phonics lesson) or mind-sets (considering different perspectives)

To show goal-directed behaviour, the child needs to keep the goal in mind and control being distracted by other things, and possible alternatives also have to be taken into consideration.

Self-regulation and executive function are often compared to an air traffic control system. Like a busy airport where planes need to be coordinated across different runways and flight paths to stop them crashing into each other, the child’s brain has to perform simultaneous functions. It has to inhibit distraction, keep information in mind and process it, shift between different situations, and curb impulsive behaviour to show appropriate behaviour instead.

Self-regulation and executive function are also associated with children’s school readiness, academic achievement, classroom behaviour and social competence. So it is vital to know how these skills can be developed in the classroom. Approaches to teaching that promote self-regulation/executive function in the classroom include:

- **Tools of the Mind**
- **Montessori**
- **Promoting Alternative Thinking Strategies (PATHS)**
- **Chicago School Readiness Project (CSRP)**

Most of these programs emphasize a child-led, playful approach that is supported by structure. For example, the Tools of the Mind curriculum encourages young learners to listen carefully by showing a picture of an ear - the picture serves as a reminder of what the child should be doing. Another activity is ‘buddy reading’, where children practice taking turns as well as listening and storytelling.
In a supportive and structured manner, a Montessori teacher will give children the freedom to choose from a range of activities every day. Teachers aim to find tasks that are challenging for the children\textsuperscript{9, 10}. This approach is linked to Vygotsky’s theory that children develop higher levels of executive function if they are challenged and supported at an appropriate level.

Research on parenting also emphasizes the importance of scaffolding for the development of children’s executive function \textsuperscript{11, 12}. Scaffolding is supporting a child whilst he or she tries something difficult, giving them ‘just enough’ of the tools and confidence to complete the task. Teachers also use scaffolding techniques in the classroom to encourage, support and develop new skills.

Useful links for further reading:

- Tools of the Mind
- Montessori
- Promoting Alternative Thinking Strategies (PATHS)
- Chicago School Readiness Project (CSRP)
- Harvard Center on the Developing Child – executive function

References


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