



Radio Stations : **All Community Radio Stations**
Subject : **Early Childhood Development**
Audience : **Parents, caregivers and educators**
Program Topic : **Executive Functioning**

Guidelines to the presenter

- Presenter – please familiarize yourself with the brief and the use the facts effectively by referring to them from time to time during the show.
- You should be seen as a peer rather than an authority.
- Offer guidance or opinion rather than telling people what to do.
- Encourage people to seek further information
- Always keep the objectives and outcomes in mind and drive these.

Topic:

Executive functioning

Objectives:

- Explain what executive functioning is
- Generate understanding of the importance of supporting the development of executive functioning – working memory, inhibitory control and mental flexibility
- Encourage parents to support their child’s learning and assist them towards independence
- Encourage parents to provide predictable routines and environments where reflection is possible

Introduction

On this show, we celebrate the fact that you are the most important person in your child' life. You have the power to give your child the best possible start in life and it doesn't have to cost you a cent. All it takes is your love, play and talk.

Brain development is built over time, starting in the earliest years of life. Executive functioning is a set of essential skills that are developed in the brain that are needed for good life functioning and school success. Minds are built – not born, and at the centre of the brains function are a set of skills called executive functions. Executive functions of the brain are the brain functions we use to manage our attention, our emotions, and our behavior in pursuit of our goals. It is important as parents that we are aware of these and assist our children to develop them.

Questions	Facts/Information
1. <i>What is executive functioning?</i>	It is a broad term that covers the tasks involved in self-regulation of thoughts, emotions and behaviors. We have to be able to work with others, control our emotions, deal with distractions – all these things are critical to successfully navigating the complex adult world. Executive function has also been described as a worker is a busy shop. Just like as the worker has to deal with a lot of information and make the right decision in all of this, so do we (and children).
2. <i>Can you describe what kinds of activities are included in the executive functioning of the brain?</i>	There is no single list of tasks involved in executive function, but includes activities as diverse as paying attention, time management, task initiation, flexibility and

impulse control, among others. It has been broken down into these key elements:

1. Paying Attention or Focus

Focusing is obviously central to achieving our goals. If we are so distracted that we can't pay attention, we can't concentrate.

2. Working Memory

Working memory is defined as holding information in our minds while mentally working with it or updating it, such as relating what you're reading now to what you just read or relating what you are learning now to what you learned earlier.

3. Mental Flexibility

Mental flexibility is defined as being able to change perspectives or the focus of attention and flexibly adjust to changed demands or priorities.

4. Inhibitory Control

"The ability to resist a temptation to do one thing and instead do what is most appropriate." It means sticking with something you are doing after you've had an initial failure -- inhibiting the strong inclination to give up or continuing to work on something even when you're bored.

Example:

As you can see here, these are important

skills especially when a child reaches school. To learn and succeed at school the child will need to pay attention, remember what the teacher has said (memory). The child will also want to play instead of work so controlling this urge becomes important (inhibitory control). The child will also need to change perspectives to suit the priority – work now play later (flexibility). You always hear of the child who doesn't pay attention and doesn't remember instructions and is always distracted...this is where these skills come in.

3. *Can you give some examples of these in children terms?*

Well inhibitory control is easiest described in children in terms of taking turns. Children have to learn to wait for their turn and not to grab. When you are waiting for your turn, you also have to be able to remember what you are busy doing – working memory. If the children taking turns before you do something unpredictable, you have to be able to adjust – this is mental flexibility.

4. *What does a child with good executive function look like?*

Children who have this capacity can focus on a number of pieces of information at one time, sort out what to take notice of and what not, to work out when they have made a mistake and make decisions based

on what they now know. They do not act impulsively or in a hurry without thinking, but rather consider all that they know about that situation before they act. These children have developed this capacity over a period of time.

Here is a little story example: Nthabi can often be observed in the ECD centres dress-up play area, taking such roles as mother, a child, and a doctor. Her mum has just had a baby so birth is a current play topic of interest. Other preschoolers seem to want to play with her, and they hover around her wanting to join in. When group time is announced, her teachers notice that Nthabi and her co-players are engrossed in their play and do not want to leave it.

Nthabi is able to keep thinking about families and what mothers and fathers and children do. She is not easily distracted, and other children like to play with her because her focus allows the play to get started and continue, making it satisfying and stimulating. Nthabi is able to get into her role, while taking notice what others in the play are doing, and extending on those ideas. She is 'self-initiated' and 'purposeful'.

<p>5. <i>What does it look like when a child is struggling with it?</i></p>	<p>Jonathon is the same age as Nthabi yet he acts very differently at preschool.</p> <p>Jonathon is often seen by staff wandering around the outdoor area, stopping and looking at what other children are doing, perhaps disrupting rather than engaging with them in their activity, then moving on. Even when educators try to get him involved in an activity, he attends only for a few minutes and has difficulty concentrating. When they leave he usually wanders off.</p> <p>This behaviour is typical of children whose executive functioning is not well developed. Jonathon does not spend time on one activity. His attention moves around, alighting only briefly. He does not become engaged in any of the range of options available to him. When he tries to join in, he may interrupt what is currently happening rather than contribute to it. Jon finds it difficult to hold an idea in his head and use it to guide what he might do next. He is so easily distracted by all that is going on around him that he cannot concentrate on one activity.</p>
<p>6. <i>But don't all children have a problem with self-control, planning</i></p>	<p>Yes as any parent will know all small children struggle with this! However what</p>

<p><i>and ignoring distractions?</i></p> <p>7. <i>So children who can't stay on task, lose control of their emotions and are easily distracted are not bad kids?</i></p> <p>8. <i>When does executive function develop?</i></p>	<p>people don't know is that children don't develop these capacities automatically. They need to be supported to do so. Plus what people don't know is that the brain development related to these skills starts in early childhood and continues well into adolescence</p> <p>No. These are children who are struggling to develop their executive functioning and punishment for bad behavior is not necessarily helpful for them. Children who are struggling with these Executive functioning skills often seem to just not be listening or paying attention, deliberately not controlling themselves but they are just struggling with these skills and need assistance with this.</p> <p>From toddler years you start to see the roots of executive function. It changes over your life span and improves radically over the first few years. It continues through adolescence and is not until adult hood that you have the strong brain network that connects all the parts of the brain. Although executive function peaks in the 20s and 30s, researchers at Harvard found that the sharpest rate of growth occurs</p>
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<p>9. <i>Can you give some examples of the early signs of executive function?</i></p>	<p>from birth through age 10, with a dramatic spike between the ages of 3 and 5.</p> <p>The early signs of executive function—the conscious control of thought, action, or emotion—emerge as early as the end of the first year of life. For example when babies are about eight months old, they can usually be encouraged to search for hidden objects after a brief delay—a form of “hide and seek.” That is, if a baby is playing with a doll and her father covers the doll with a cloth, the baby may remove the cloth and retrieve the doll. This behaviour by itself suggests some degree of executive function because the baby keeps the doll in mind and performs one action (removing the cloth) in order to perform another action (retrieving the doll). The first action is consciously controlled to the extent that it is treated deliberately as a means to an end.</p>
<p>10. <i>How does executive function develop?</i></p>	<p>To understand how executive function develops, you first need to understand how the brain develops. Brains are built over time, starting in the earliest years of life. The ongoing relationships between children and their adult caregivers are the key, active ingredient in children developing</p>

<p><i>11. How do children develop executive functioning?</i></p> <p><i>12. Why is it important?</i></p>	<p>healthy brain architecture. Executive function is highly influenced by a child's environment - some higher level skills can not be developed until lower level skills are in place, therefore giving children a strong foundation in the early years is really important. The brain is most able to adapt and change in the earliest years of life.</p> <p>The majority of children follow a basic progression. For example, in general, the executive function of 2 year olds is markedly different from that of 4 year olds. At 2, most children are able to follow simple verbal instructions, but when presented with a list of rules, they tend to fixate on one or two rules. By age 4, most children can keep two sets of incompatible rules straight and even generate a new rule that explains when to use which set.</p> <p>Executive functions lay the groundwork for school success. That is why it is so important that young children begin to develop these skills before entering school. Children who start school with strong executive function skills make greater gains in cognitive or academic areas like math or reading. Researchers have found that</p>
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executive functions predict children's success as well as -- if not better than -- IQ tests. Furthermore, the abilities to stay on task, plan, organize and delay gratification are the same skills necessary to hold a job, develop healthy relationships and deal with stressful situations later in adulthood. Therefore if we don't develop these in early childhood or adolescence, we are really ill-equipped to handle life as an adult.

Researcher Walter Mischel demonstrated the long-lasting importance of executive function in an experiment sometimes called the Marshmallow Test.⁴ In this study, children were given a choice between getting one marshmallow right away or getting two marshmallows by waiting just a few minutes longer. Children who were able to delay their impulses and wait got a better reward. Follow-up research with the same children showed the connection between executive function and later school success. The researcher noted that children who were able to delay gratification were later more likely to have more positive self-esteem and attain a higher education level.

<p><i>13. What kinds of environments prevent Executive Functioning from developing?</i></p>	<p>Adverse environments resulting from neglect, abuse, exposure to violence can impair the development of executive function. Chaotic environments can also lead to poor self regulatory behaviours and impulse control. Also problematic are Environments characterized by:</p> <ul style="list-style-type: none"> • Disengaged parents or not enough chance for children to interact directly with adults. • Unpredictable routines or lack of schedule. • Too many transitions during the day, or not enough time to focus on completing an activity. • Crowded, chaotic environments. • Too much screen time (crowding out other, richer, concrete experiences interacting directly with people). • Overly strict rules or discipline taken to an extreme (too much standing in line, not being allowed to talk at mealtimes, etc.).
<p><i>14. How can parents support children’s development of executive functioning</i></p>	<p>These skills can be trained – just like practicing – the more you practice, the more you can grow your capacity for this. An important place to start is for parents to model healthy executive functioning to</p>

<p><i>15. How do you support this moving from dependence to independence?</i></p>	<p>their children – for example in a moment of frustration how do you handle this? Do you take a deep breath, pause and reflect on your actions before proceeding? This demonstrates good inhibitory control. Environments that support executive function developing are ones in which positive adult-child relationships guide children from complete dependence on adult support to gradually using their own skills.</p> <p>Adults set us an environment to learn this by setting up routines, breaking up big tasks into smaller ones and providing cues to children about what to do next. This is called scaffolding and allows children to practice until they can perform on their own. Initially parents need to provide a lot of scaffolding - just like if you were building a building. So initially a parent would walk a child through a set of procedures – show them where their backpack goes and then where to sit. And if they make a mistake, not to get angry but just to walk them through these steps again until they get it themselves.</p>
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16. Are there games and activities that can help?

Children’s social play is meant to be an important practice ground for the development to these skills. In imaginative play, your child makes up complicated rules, develops characters and long story lines, and negotiates with others about who can participate. This kind of play requires the executive function skills of working memory (remembering information about the characters and rules of the game) and understanding the perspectives of others. Normal childhood games also help develop executive functioning. For example, you might remember playing Simon Says. You could obey a direction only if it began with “Simon says.” “Simon says, touch your nose.” “Simon says, pat your head.” “Simon says, sit down.” “Stand up.” You heard an ever-faster stream of directions, and you followed them more and more quickly ... until you realized that you had followed a direction without hearing, “Simon says”! You were managing the competing demands of following the instructions while listening for the key ingredient, “Simon says.” This requires the executive function skills of focus and self-control and managing complicated tasks. Oral story telling is also a very good way to

<p><i>17. Why would parents see in their children are able to develop this well.</i></p> <p><i>18. How is it different to school readiness or academic success?</i></p>	<p>develop executive functioning.</p> <p>Eventually you are going to be able to step back, and your child is going to be able to go into the world with these skills where they can get along with other people, change rules, they can be flexible, they can accomplish new things and they are unafraid.</p> <p>These skills of strong working memory, cognitive self-control and attentional skills are the basis upon which other skills (like reading, writing or doing math) are built. In practice these skills support the process of learning that enable children to effectively manage the content of school, and are therefore critical.</p>

<p>Learning outcomes</p>
<p>After listening to this show the audience should:</p> <ul style="list-style-type: none"> • Be aware of what executive functioning is • Understand the importance of supporting the development of executive functioning – working memory, inhibitory control and mental flexibility • Be aware that children should be assisted towards independence • Understand that it is necessary to provide predictable routines and environments where reflection is possible

