Identifying factors that impact on attention

This is an introduction to understanding how attention develops in children and young people, and ways to support those who might be presenting with some needs in this area. These information slides are part of a series of introductory information presentations about working with educational psychologists and common aspects of special educational need which the EPS supports schools with.

This presentation is designed as a starting point for school staff to think about some of the factors that can have an impact on the development of a child’s attention and processing.

We will start this presentation by defining what we mean by the term ‘attention’.

A generally accepted definition is:
“A state in which cognitive resources are focused on certain aspects of the environment rather than on others and the central nervous system is in a state of readiness to respond to stimuli” (American Psychological Association, 2020)

Or simply: “Withdrawing from some things to effectively deal with others” (Karageorghis & Terry, 2011). This idea of being able to concentrate, or to focus.

Attention is not one single process and is thought to consist of a group of sub-processes with different skills needed to be able to focus and attend to something. One of the most widely used models of understanding attention comes from Sohlberg and Mateer (1989).

* At the top in the green we have *Arousal*: Refers to our activation level and level of alertness, whether we are tired or energized and ready and able to engage.
* Going round the circle next we have *Focused Attention*: Refers to our ability to focus attention on a stimulus.
* We then have *Sustained Attention*: The ability to attend to a stimulus or activity over a long period of time.
* We then have *Selective Attention*: The ability to attend to a specific stimulus or activity in the presence of other distracting stimuli, which sometimes is needed in the classroom when other things are going on around us.
* We then have *Alternating Attention:* The ability to change focus attention between two or more stimuli. Can I go back and forth between 2 different tasks that are being asked of me e.g. looking at the board, then looking back down at your work and then looking back at the board.
* The last one listed there is *Divided Attention*: The ability to attend to different stimuli or attention at the same time. As the child is progressing through the curriculum, the expectation would be that a child can listen to what their teacher is saying whilst also making their own notes.
* Its not just one type of attention, but we need all of these to be able to work through the curriculum and make progress. Some children might be able to focus on one thing when it is void of any distractions, but as they age they might encounter some difficulties there with divided attention and being able to do 2 things at the same time. We need to work out exactly where they’re struggling with their attention and focus.

If we look at only a child’s cognitive development, then there are typical stages that we might expect them to go through when developing their attention and focus as they age.

* A baby from 0-1 years of age would typically have fleeting attention where they are easily distracted and flit from one thing to another.
* As they progress 1-2 years - children may begin to have short bursts of concentration on a task of their choice. (Rigid)
* 2-3 years - children can usually cope with listening to one instruction when asked to stop and listen. We would not expect them to be able to attend to 2 things at once. (Single channelled)
* 3-4 years - children can still only concentrate on one thing at a time but is beginning to shift their own attention between tasks. (Focusing)
* 4-5 years - children who are moving into reception are beginning to have two-channelled attention and be able to divide their attention between listening and completing an activity at the same time. This can still be quite challenging for some children. (two channelled)
* 5-6 years – children’s ability to give attention and focus to two activities is beginning to be integrated and established. (Integrated)
* This is a very broad generalisation and some children may not reach each stage at the same time.

In the earliest years of education, these leaps in development can be quite apparent, with the youngest children in cohort not yet having developed the skills that their autumn-born peers may have. It is important to remember that this information should be considered relevant to the child’s developmental stage and not just their chronological age. We might have a child later on into primary school who is developmentally working at an early level and has therefore not yet progressed through all of these stages and has not yet developed the skills to be able to listen and complete another activity at the same time. In these instances, it may be that some of the curriculum demands are too complex for the stage they are working at.

On the previous slide, I described the cognitive stages that we might expect when thinking about how a child’s attention develops. However, there are many other factors that can also have an impact on a child’s attention and focus. Thinking about their cognitive development alone would not allow a sufficient picture of what is going on for the individual child or young person, and also what some of the barriers might be for successful attention and focus in school. I am therefore presenting on this slide the Interactive factors (IF) framework (by Frederickson and Cameron, 1999). This is one framework that Educational Psychologists use to consider all of the factors which might be affecting a child or young person’s development. It allows us to think about the child’s biological, cognitive and behavioural factors that might be having an impact, but then to think about how these sit within the child’s environment and the interaction that has taken place between all of the factors. We will look at each in more detail over the coming slides and think about how this builds a picture of what is going on for the child.

There might be some specific **biological factors** which impact a child’s attention.

Obtaining background information and information from the family about any biological factors would help to understand if there is anything here that is impacting on a child’s attention. It would be useful to know about the child’s birth history, any birth prematurity, any underlying medical needs, any sensory impairments or difficulties around vision and hearing. It would also be useful to know about their age and stage of development, such as are they youngest in the cohort or the youngest in class; understanding that if they are one of the younger ones they might not have got to the stage of developing all aspects of their attention.

Next it would be useful to think about the **cognitive factors** impacting a child’s attention. This is not just the stage that they are working at but also other factors such as:

* Any learning difficulties the child might have
* Language difficulties and needs in their early years
* EAL – does the child speak English as an additional language?
* Difficulties with working memory – are they able to hold information in mind?
* Difficulties with social skills and ability to navigate demands and expectations in the classroom.
* Limited prior knowledge of topic and what’s going on in the classroom, especially if they are new to school or new to the topic being discussed.
* Executive functioning skills - another topic which would need to be looked at in more detail e.g., are they able to control their impulses, regulate their emotions, have some flexibility in their thinking, monitor what they’re doing, and plan and prioritise their tasks.

Again, these are not exhaustive but good examples of things to consider.

It would then be helpful to think about any **behavioural factors** that might be having an impact on the child.

* Low motivation – they might not be interested in the topic they are learning about which can impact attention and focus.
* Feeling worried/ feelings of anxiety around the topic or whatever is happening in the classroom.
* Being hypo (under) aroused and not alert.
* Being hyper (over) aroused and not settled for learning.

Again, these are not exhaustive but good examples of things to consider.

Lastly it is incredibly important to think about **environmental factors** that might have an impact on a child’s development and their attention and focus in the classroom.

* Home stressors - poor routines, limited or interrupted sleep patterns (particularly important for attention and focus), poor diet, relationships, being a young carer and having other demands placed on the young person.
* Social factors – Stressors outside of school which divert attention e.g., friendship difficulties, low access to meaningful activities, use of social media.
* Distractions - Too many distractions in the environment and being unable to filter out background noise or distractions e.g. classroom – something to consider is neutral classrooms.

Again, these are not exhaustive but good examples of things to consider.

This slide shows the interactive framework completed with an example. When we map the factors onto this framework, we can begin to see that it is unlikely just one factor that would be contributing to a child’s attention needs and difficulties. For example, a child might be presenting with some cognitive delays, but we might also know they were born prematurely, are youngest in cohort, and are not motivated by the topic being discussed. We might also begin to build a picture of the child’s environment and understand that they are not used to structured routines and have had limited life experience of engaging with focused activities which have required their attention over a sustained period. In this example, we understand the interactive aspect of this framework. The child’s cognitive delays and lack of focus may have been affected by their life experience to date; it’s not just about their brain development. We might also notice that some of the examples are bi-directional (go back and forth), with medical needs impacting on sleep, as well as poor routines at home contributing to some of the child’s behaviours. It helps us to think more broadly about the child and not just see their medical, cognitive or behavioural needs in isolation but build a more complex picture of the individual. Building this picture will help with identifying the most appropriate strategies and supports for the child.

When a clear picture has been built of what factors are impacting on the child’s attention, appropriate strategies can be selected and carefully tailored to support them. With all strategies, there should be careful tracking of the impact they have and a review of their effectiveness over a period of time e.g. A term would be sensible.

Once you have established what the key factors are for a child or young person, you can shape the strategies to support them better. Here are some areas to consider, again using the Biological/Cognitive/Behavioural and Environmental areas. Starting with the green box on the left hand side, these are factors we might need to support families with around the wider factors impacting the child such as their routines at home and sleeping habits. There are also plenty of thins we can be doing in the classroom:

1. *Minimize Distractions:* Reduce background noise and visual clutter. Even small noises like a fan can be distracting

*Seating Arrangements*: Place the child at the front of the class where they can easily see visual aids

1. *Use Visual and Auditory Cues*

*Visual Aids:* Use symbols, pictures, and task timetables to support verbal instructions.

*Auditory Signals:* Give clear signals when it’s time to listen, such as calling the child’s name or tapping them on the shoulder.

1. *Promote Active Listening*

*Consistent Prompts:* Use phrases like “Look at me” and “Good listening” to reinforce attention.

*Active Engagement:* Encourage participation in class discussions and group activities.

1. *Reduce cognitive load*

*Break Tasks into Manageable Parts with Short Bursts of Activity*: Follow short periods of focused activity with breaks or movement opportunities.

*Clear Targets and Rewards*: Set clear goals and provide rewards for meeting them.

1. *Incorporate Multi-Sensory Approaches*

*Sensory Activities*: Use activities that engage multiple senses to help maintain attention.

1. *Reinforce Good Attention*

*Positive Reinforcement*: Give specific praise and rewards for good listening behaviors1.

*Visual Timetables*: Use visual aids like sand timers to help children understand how long they need to focus1.

Further information – including information related to a range of other areas of need – can be found on Schools News and the Educational Psychology Service website. There are also several useful websites which contain information, resources and helpful strategies when thinking about attention difficulties which you may wish to look at following this video.

Thank you for listening to this presentation on attention.