



Education &  
Communities



# NSW Centre for Effective Reading

Teacher Resources

## Working with students with cognitive difficulties:

**Attention**

# Contents

<b>Attention</b>	1
<b>Strategies</b>	2
<b>What is Attention?</b>	2
<b>How is Attention assessed?</b>	3
<b>How are standardised assessment results interpreted?</b>	4
Understanding assessment results	4
<b>Typically developing attention skills</b>	4
Development of attention skills	5
<b>Classroom Strategies</b>	6
<b>1. Classroom organisation</b>	6
<b>2. Classroom management</b>	7
Example of classroom rules	7
Entering the classroom	8
Writing an information report	8
<b>3. Teaching and learning strategies</b>	9
Visual aids for introducing new vocabulary	9
Semantic mapping	10
Student attention	10
Individual responsibility checklist	11
<b>Resource List</b>	12
<b>Reference List</b>	13

## Attention

	What is it?	How is attention measured?	Implications of Poorly Developed Attention Skills	Implications of Well Developed Attention Skills
SUSTAINED ATTENTION	Ability to maintain effort on a specific task over time	Working on a task that is not very engaging or interesting	<ul style="list-style-type: none"> <li>» Restless/fidgety, unable to sit still</li> <li>» Poor persistence in activities and problems staying on task independently</li> <li>» Difficulty maintaining focus on difficult or dull tasks</li> <li>» Difficulty following instructions</li> <li>» Easily distracted by other children or nearby activity</li> </ul>	<ul style="list-style-type: none"> <li>» Can sit down and complete homework efficiently</li> <li>» Work consistently on a task that is dull or tedious i.e. chores, homework</li> <li>» Complete one play activity or homework assignment before starting another</li> <li>» Sit and listen to a story</li> </ul>
SELECTIVE ATTENTION	Ability to selectively attend to specific information whilst 'tuning out' unrelated information	Working on a visual search task where child has to find important information on a page	<ul style="list-style-type: none"> <li>» Difficulty focusing in busy environment</li> <li>» Difficulty focusing on important information and ignoring irrelevant information</li> <li>» Difficulty ignoring distractions</li> </ul>	<ul style="list-style-type: none"> <li>» Can sit and work on a task in a noisy environment</li> <li>» Can follow instructions correctly</li> </ul>
ATTENTION SWITCHING	Ability to switch attention back and forth between different tasks	Working on a task that requires switching the focus of attention between two tasks	<ul style="list-style-type: none"> <li>» Difficulty adapting to change or moving between tasks</li> <li>» Difficulty remembering status of task while performing another</li> </ul>	<ul style="list-style-type: none"> <li>» Can return to a task when interrupted</li> <li>» Able to produce accurate work even when completing more than one task at one time</li> </ul>
DIVIDED ATTENTION	Ability to simultaneously pay attention to two or more important things at one time	Working on two tasks at once	<ul style="list-style-type: none"> <li>» Difficulty coping with competing demands of multiple activities</li> </ul>	<ul style="list-style-type: none"> <li>» Can listen to a teacher and take notes at the same time</li> <li>» Can work on two activities at once e.g. watch a video demonstration and take notes at the same time</li> </ul>



## Strategies to facilitate attention

Classroom Organisation	Classroom Management	Instructional Approaches
<ul style="list-style-type: none"> <li>» Positioned close to teacher and away from distracting children, windows or noisy corridors</li> <li>» Ensure child can easily see teaching presentations</li> <li>» Reduce distractions in environment – remove unnecessary items from desk and high traffic areas</li> <li>» Keep frequently used materials labeled and readily accessible</li> </ul>	<ul style="list-style-type: none"> <li>» Develop and communicate classroom rules with associated rewards and consequences</li> <li>» Maintain a consistent daily routine for the classroom</li> <li>» Develop routines and procedures for frequently occurring tasks</li> <li>» Promote student responsibility and accountability for learning</li> </ul>	<ul style="list-style-type: none"> <li>» Use a variety of ways to present information (visual and verbal)</li> <li>» Schedule important/demanding tasks early in the day or after a break</li> <li>» Give clear and concise instructions, ask child to repeat instructions</li> <li>» Prompts to listen before giving instructions</li> <li>» Break down tasks into steps and use checklists to keep track of task</li> <li>» Set short achievable tasks with a clearly defined beginning and end</li> <li>» Include variety of activities during each lesson, allowing child to get out of seat</li> <li>» Shorter study sessions with regular breaks</li> <li>» Subtle prompts to return to task</li> <li>» Praise for staying on task</li> <li>» One to one support where possible</li> </ul>

## What is Attention?

**Attention** is a range of skills that are vital to the learning process. Attention allows child/student to:

- » ‘Tune out’ unrelated information such as noise in the classroom and other distractions
- » Concentrate and focus on important information given by teachers
- » Keep track of where s/he is up to when interrupted mid-task
- » Maintain effort over time such as
  - Concentrate for the whole lesson
  - Pay attention to two or more important things at the one time (e.g. listening to teacher’s new instructions whilst working on an activity)
  - Switch back and forth between activities quickly (e.g. teacher explains how to do an algorithm then they work an example)<sup>1</sup>

There are different types of attention difficulties which have different implications for learning and intervention strategies.



## How is Attention assessed?

Attention is assessed using a combination of behavioural observations and specific standardised measures including:

- » **Test of Everyday Attention for Children (TEA-Ch)<sup>2</sup>** is a number of tests assessing attention that examines the **following domains**:
  - **Sustained attention** – measured by asking the child to work on a task that is not very engaging for an extended period of time. The simplicity of these types of tasks place less demand on other skills such as processing speed, memory and language
  - **Selective attention** – measured by a visual search task, where the child has to quickly find important information amongst irrelevant information
  - **Attention switching** – measured by asking the child to switch attention from one task to another
  - **Divided attention** – measured by asking the child to perform two tasks at once

**Conners Continuous Performance Test-II (CPT-2)<sup>3</sup>** is a repetitive and simple computerised test which assesses a range of attention abilities.

Parents and teachers also complete questionnaires to document their observations of the child's attention and concentration in the home and school settings. These include:

- » **The Conners 3rd Edition (Conners III)<sup>4</sup>** is a standard questionnaire given to parents/teachers to assess attention and behavioural problems in children and adolescents. It measures a broad range of behaviours including:
  - Attention
  - Hyperactivity/impulsivity
  - Learning problems
  - Executive functioning
  - Aggression
  - Peer relations

The **Conners III** has been widely used in the diagnosis of **Attention Deficit/Hyperactivity Disorder (ADHD)**. It allows for differential diagnosis by assessing and screening for problems and disorders most commonly associated with ADHD, such as **Oppositional Defiance Disorder** and **Conduct Disorder**.

- » **Behaviour Rating Inventory of Executive Functions (BRIEF)<sup>5</sup>** examines a range of higher level thinking skills, or executive function, including the ability to anticipate future events, set goals, and develop appropriate steps ahead of time to carry out a task or activity.
- » **Child Behaviour Checklist/Teacher Report Form (CBCL)<sup>6</sup>** is a questionnaire designed to identify behavioural and emotional difficulties in children including ADHD, conduct disorders, aggressive behaviour, depression, anxiety and social difficulties.

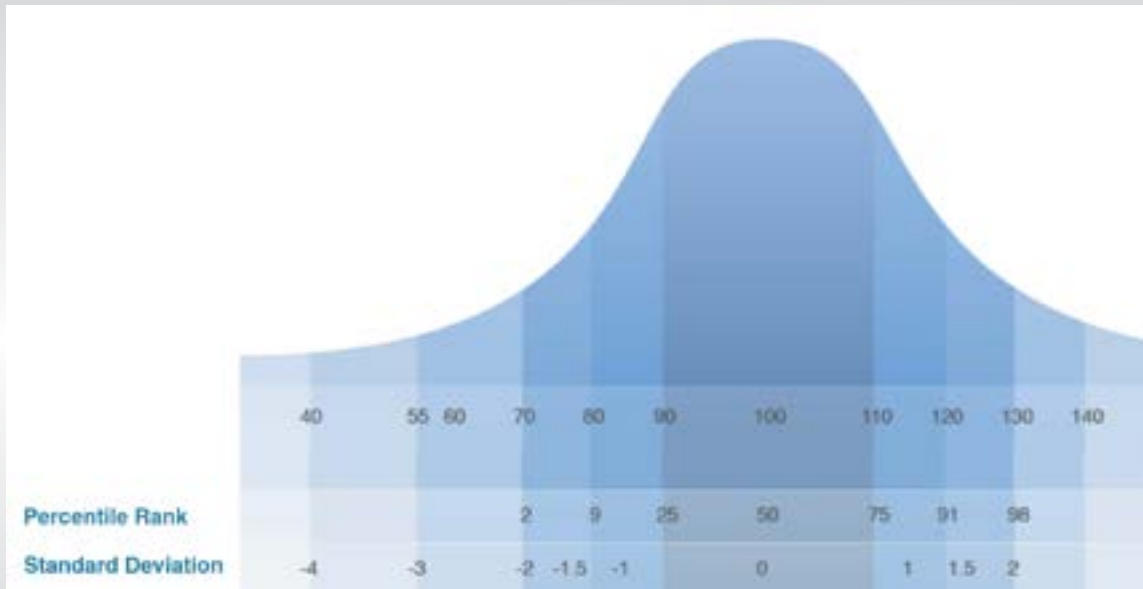


# How are standardised assessment results interpreted?

Results are usually described as standardised scores which indicate how a child performs in comparison to other children of the same age.

The following information helps you understand what these scores mean. For more information regarding the normal distribution of scores see [here](#).

## Understanding assessment results



NOTE: Z-scores, IQ scores T-scores, and scaled scores are considered interval scales of measurement. These scores indicate rank and meaningfully reflect the relative distance between scores. Percentiles only indicate ranking, by themselves they do not indicate how far apart scores are.

## Typically developing attention skills

- » Attention skills develop throughout childhood and adolescence coinciding with brain maturation<sup>7</sup>
- » *Sustained attention* skills improve with age<sup>8 9</sup>
- » *Selective attention* appears to develop within the first year of life; infants are able to orient their attention to an object. We might expect a 6 year old child to attend to important information and ignore what is irrelevant<sup>10 11</sup>
- » Children in later primary school are able to *divide attention* between tasks and *switch attention* between tasks more easily<sup>2</sup>



## Development of attention skills

Domain	Well-developed skills	Poorly developed skills
<b>Sustained Attention</b>	<ul style="list-style-type: none"> <li>» Attend to instructions</li> <li>» Complete tasks on time</li> </ul>	<ul style="list-style-type: none"> <li>» Sitting still</li> <li>» Staying on task independently</li> <li>» Maintaining focus on difficult or mundane tasks</li> <li>» Following instructions</li> <li>» Staying focused in the presence of other children or nearby activities or objects</li> <li>» Comprehending long chapters or large amounts of connected text</li> </ul>
<b>Selective Attention</b>	<ul style="list-style-type: none"> <li>» Focus on important information and ignore what is irrelevant</li> <li>» Ignore distractions</li> </ul>	<ul style="list-style-type: none"> <li>» Focusing in a busy environment</li> <li>» Focusing on relevant information while ignoring irrelevant information</li> </ul>
<b>Attention Switching</b>	<ul style="list-style-type: none"> <li>» Switch between two trains of thought</li> <li>» Transition from one task to another efficiently</li> </ul>	<ul style="list-style-type: none"> <li>» Remembering place when interrupted</li> </ul>
<b>Divided Attention</b>	<ul style="list-style-type: none"> <li>» Perform more than one task at a time</li> <li>» Listen to the teacher and write notes at the same time</li> </ul>	<ul style="list-style-type: none"> <li>» Performing more than one task at a time simultaneously</li> <li>» Becoming easily overwhelmed by too many tasks at once or large amounts of information</li> </ul>



# Classroom Strategies

The following classroom strategies, while normal classroom practice, also assist in supporting students with poorly developed attention skills.

Strategies are described in the following areas:

## 1. Classroom organisation

- » Ensure furniture arrangement promotes learning opportunities
- » Maintain plans for materials and resources

## 2. Classroom management

- » Develop classroom rules collaboratively with students
- » Communicate classroom rules verbally and in writing
- » Set up a system of specific consequences and rewards
- » Develop routines and procedures for activities that occur regularly
- » Promote student responsibility and accountability for learning

## 3. Teaching and learning strategies

- » Before the lesson
- » During the lesson
- » After the lesson

## 1. Classroom organisation

Students with poorly developed attention require a classroom environment that is well organised to minimise distractions and allow the teacher to monitor student behaviour.

**In the classroom:**

### **Ensure furniture arrangement promotes learning opportunities and minimises distractions**

- » Keep frequently used teaching materials and student supplies readily accessible. By minimising the time getting ready and cleaning up, activities can begin, and end promptly
- » Arrange student seating to allow for maximum visibility and accessibility to the learning activities and to limit distractions<sup>12</sup>
- » Seat students near, or with students, who will be good role models and where they can be easily monitored by the teacher

### **Maintain plans for materials and resources**

Develop routines for distribution and access to classroom materials:

- » Place materials for student activities in a regular location for easy student access
- » Have procedures for distribution and collection of materials and work books
- » Have labelled tubs for student work books and materials
- » Keep student desks free of unnecessary materials





## 2. Classroom management

Teachers need to provide support to students with poorly developed attention skills through classroom management strategies that provide routine and structure and develop student independence.

**In the classroom:**

### Classroom rules (verbally and in writing)

Develop and communicate a limited number of **rules** (three to five) that are clear, specific, and stated positively:<sup>13</sup>

- » involve students in the process of understanding, developing, and implementing rules and procedures
- » review rules regularly
- » reinforce rules by practising them with students

#### Example of classroom rules

Be Respectful	Be Responsible	Be Cooperative
Raise your hand to speak	Hand in completed assignments on time	Do what your teacher asks immediately
Keep hands, feet and objects to yourself	Sit in your seat unless you have permission to leave	
	Start work immediately, work during work times	
	Bring paper, pencil and books to class	

An effective system of consequences and rewards should:

- » tell students what happens if they break a rule
- » tell students what happens if they follow a rule
- » introduce choice – once a student knows the consequence they can make an informed choice
- » provide feedback to students about their behaviour<sup>14</sup>

Be sure consequences are reasonable and logical to the situation and be consistent and fair in applying consequences.

### Develop routines and procedures for activities that occur regularly

Procedures should explain the accepted process for carrying out a specific activity in the classroom. For example: sharpening pencils, attending assembly, moving around the classroom, handing in completed work.

To develop procedures and routines for the class or a specific student:

- » make a list of all the activities in the classroom
- » determine the desired outcome e.g. entering the classroom



- » decide how students need to complete the task
- » consider what errors students are likely to make
- » consider problem areas or problem times – a well-designed routine can often overcome these problems

Breaking an activity into a series of steps makes it more manageable for some students. Practise these procedures with students, particularly at the beginning of the year.

### Entering the classroom

- Line up at the classroom door when the bell rings
- Talk quietly until the teacher arrives
- Listen to teacher instructions
- Walk into the classroom and sit at your desk
- Wait quietly until the teacher is ready



Maintain a consistent daily routine in the classroom. Provide a daily schedule and refer to it often e.g. **visual timetable**.

### Promote student responsibility and accountability for learning

Breaking a task into a series of steps makes it more manageable for some students.

### Writing an information report

- Decide on a topic
- Locate information
- Collate and organise information
- Plan report using scaffold
- Write report
- Edit and proof read report using guide
- Publish report



Make sure students fully understand what they are supposed to do and how they are to do it:

- » monitor student completion of tasks and mastery of skills/content
- » provide timely feedback on tasks

Develop strategies to support student independence:

- » visual or written prompts for specific tasks e.g., checklist of steps
- » colour code workbooks according to subject
- » provide explicit strategy instruction

Schedule important and demanding tasks early in the day or after an extended break. Encourage students to seek clarification when instructions are not understood.



### 3. Teaching and learning strategies

Teachers can use a number of adjustments to their teaching and learning to cater for the needs of students with poorly developed attention skills.

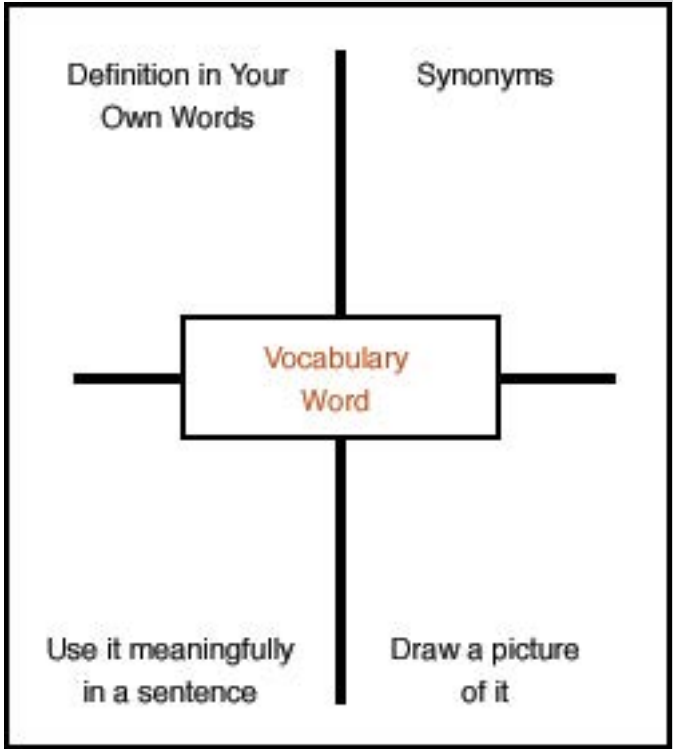
These can include:

#### Before the lesson

- » Select resources at a level which will support the student to work on a task independently e.g. use an audio version of a written classroom text if the student has a reading difficulty
- » Introduce key vocabulary prior to lesson

Prepare a glossary of terms, use visual aids such as **word maps**

Visual aids for introducing new vocabulary

Glossary of terms	Vocabulary word map										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;"><b>diggings</b></td> <td style="padding: 5px;">an area where gold is mined</td> </tr> <tr> <td style="padding: 5px; text-align: center;"><b>discriminate (against)</b></td> <td style="padding: 5px;">to treat someone unfairly because of what they are</td> </tr> <tr> <td style="padding: 5px; text-align: center;"><b>erosion</b></td> <td style="padding: 5px;">environmental damage caused when water washes away soil</td> </tr> <tr> <td style="padding: 5px; text-align: center;"><b>Eureka Stockade</b></td> <td style="padding: 5px;">a battle between diggers and troops at Ballarat in 1854</td> </tr> <tr> <td style="padding: 5px; text-align: center;"><b>stockade</b></td> <td style="padding: 5px;">small fort</td> </tr> </table>	<b>diggings</b>	an area where gold is mined	<b>discriminate (against)</b>	to treat someone unfairly because of what they are	<b>erosion</b>	environmental damage caused when water washes away soil	<b>Eureka Stockade</b>	a battle between diggers and troops at Ballarat in 1854	<b>stockade</b>	small fort	
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- » Use **graphic organisers** or semantic mapping to alert students to what will be included and expected from the lesson or discussion:<sup>15</sup>
  - use the graphic organiser to provide an overview of the content and expected learning at the beginning of the session
  - link what is being learned to previous lessons or background knowledge
  - complete the graphic organiser during and/or after the lesson



## Semantic mapping

Semantic feature analysis

Semantic gradients

Concept maps

[bubbl.us](http://bubbl.us)



### During the lesson

- » When presenting Key Learning Area content support explanations with visuals such as pictures, graphs, maps and/or diagrams<sup>16</sup>
- » Deliver directions, explanations and instructional content in a clear, concise manner and at an appropriate pace
- » Provide verbal instructions prior to handing out materials
- » When giving instructions or explanations ensure all students are attending

### Student attention

To get **student attention** use one or more of the following:

- Call their name and make eye contact
  - Use a predetermined signal (individual and/or whole class)
  - Move closer to the student to gain attention
- 
- » Break information into key points when delivering directions, explanations and instructions and monitor to determine student understanding
  - » Give step-by-step instructions with the steps outlined in writing or shown in picture sequences. Use demonstrations along with the presentation of information
  - » Write important ideas on the board. Use different colour markers for emphasis or coding on the board. Limit the amount of text that needs to be copied by directing student to write text written in a particular colour
  - » Instead of requiring the student to copy from board, provide student with a copy of the information. The information may be given as a paper or electronic copy
  - » Present a new concept by relating it to previously presented information
  - » Repeat, paraphrase, and summarise all important points, particularly at the conclusion of the lesson or discussion. To check the student's understanding, ask the student to paraphrase key points in his or her own words. The teacher can identify anything that is still unclear
  - » Provide directions as pictures or in writing, number each step
  - » Teach students how to ask questions for clarification. Encourage and value these questions



## SMART kids ask clarifying questions

- What does that word mean?
- What did you say I had to do next?
- What did you mean when you said...?



### After the lesson

- » Provide an oral summary review of the key points of the lesson
- » Use cooperative learning techniques such as **Think Pair Share** to have students review key points
- » Begin modelling time estimation for independent task completion. Break down after lesson into smaller parts and then identify an estimated time for each part. This may include visual prompts such as a timer. Gradually, students can start to take more responsibility in estimating times for daily tasks. This will provide good preparation for students when assignments and tasks increase in difficulty and volume in high school
- » Check to see if the student needs any help in getting started with independent tasks
- » Use uncluttered and clearly formatted assessments and worksheets
- » Block sections on paper for each response of a task by drawing lines or folding. Show students how to cover parts of text or worksheet not being used
- » Give page numbers in a text for locating answers to questions
- » Reduce the amount of information on a page (e.g. less print, fewer pictures per page, highlight important information)
- » Arrange items so that it is easy to know where to start and how to proceed
- » Give the student an individual responsibility checklist

### Individual responsibility checklist

	1	2	3	Sticker
I like to listen to instructions before I begin				
I ask questions if I don't understand				
I make a plan before I start work				
I finish my work				

Provide additional time for a student to complete an assignment or task<sup>17</sup>

- » Use a **timer** or visual prompt to define work times



## Resource List

### Attention

*Selective attention*

<https://sites.google.com/site/egnerlab/research/selective-attention>

*Sustained attention*

<http://www.psyttest.net/index.php?page=Daueraufmerksamkeit>

*Conners Continuous Performance Test*

<http://www.devdis.com/conners2.html>

[http://www.psychassessments.com.au/products/26/prod26\\_report2.pdf](http://www.psychassessments.com.au/products/26/prod26_report2.pdf)

<http://www.mhs.com/product.aspx?gr=edu&prod=cptii5&id=overview>

*Test of Everyday Attention for Children (TEA-Ch)*

<http://www.beverlytignorphd.com/Tests3.html>

*Conners III*

<http://www.connorstest.com/>

<http://www.mhs.com/product.aspx?gr=cli&prod=conners3&id=overview>

*Sample Report*

<http://www.psychassessments.com.au/Category.aspx?cid=127#sample>

<http://www.acer.edu.au/documents/Conners-3-T-Assessment-Report.pdf>

### BRIEF

*Sample report*

[http://www.acer.edu.au/documents/sample\\_reports/brief-interpretive.pdf](http://www.acer.edu.au/documents/sample_reports/brief-interpretive.pdf)

*Child Behaviour Checklist*

[http://knowledgex.camh.net/amhspecialists/Screening\\_Assessment/screening/screen\\_CD\\_youth/Pages/CBCL.aspx](http://knowledgex.camh.net/amhspecialists/Screening_Assessment/screening/screen_CD_youth/Pages/CBCL.aspx)

<http://www.aseba.org/forms/schoolagecbcl.pdf>



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