



Left Brain, Right Brain or Whole Brain?

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...as in nature, if there are two or more, one will lead...



If we think about learning, we think: **brain**. If we read about learning in magazine articles, books or the internet, the brain is described in terms of the left and the right brain.

1. Is the brain whole, left or right?

You were created whole. Your brain was created whole. A child’s brain was too. **But** your brain and body have also been created with your own combination of left and right preferences, which makes you unique. This unique combination of left and right preferences influences your personality; learning style and what happens to you when stressed.

For example, when stressed, do you:

Push yourself harder	<input type="checkbox"/>	Feel overwhelmed	<input type="checkbox"/>
Become task oriented and rules bound	<input type="checkbox"/>	Take on more but finish less	<input type="checkbox"/>
Justify yourself and your actions	<input type="checkbox"/>	Find it difficult to verbalise your thoughts	<input type="checkbox"/>
Lose your joy	<input type="checkbox"/>	Lose your ability to reason logically	<input type="checkbox"/>
Come across robot-like	<input type="checkbox"/>	Respond emotionally and impulsively	<input type="checkbox"/>

These two lists illustrate the difference between how the left and the right brain responds when stressed. When a child with a left brain preference becomes stressed he works more; he tries harder, remembers less, argues endlessly and cries with frustration without better results.

When a child with a right brain preference becomes stressed his behaviour becomes erratic; he rebels against rules, his thinking is not logical but emotional, he battles to express himself clearly and rather communicates non-verbally through action (slamming the door; lying on his bed in tears) and guess-reads test and exam questions.

Remember, every person is born with a whole brain, but, for speedy reactions during times of survival the one half of the brain is hardwired to respond first and the other half to follow. The characteristics of the leading side of the brain become more dominant and influence how a child behaves and learns; what he likes and dislikes; what he is naturally good at and at which subjects and activities he might excel.

2. A quick brain dominance preference test based on the work of Shaw and Hawes (1998) to determine your child's dominance*:

There are 12 questions with each question having two possible answers (a) or (b). Neither answer is right nor wrong, the answers simply indicate a more left or right brain preference. Choose the answer that best describes your child's behaviour when stressed.

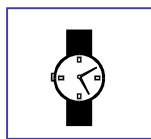
1. If building a puzzle does he:

- a) sort all the corners together, all the straight edges together and the rest in a pile?
- b) begin by sorting the pieces but fit bits together as he spots them?

2. Which box is associated with box 1?

- a) box 2?
- b) box 3?

1



2



3



3. When he gets a new cell phone, would he:

- a) briefly look at the instructions, but rather experiment?
- b) carefully read and follow the instructions?

4. If you were going on holiday would he prefer to:

- a) know where you going, when you going; who else is going well in advance?
- b) be surprised?

5. Does he have hunches about the future or how things will turn out:

- a) fairly often?
- b) hardly ever?

6. When he is doing his homework does he:

- a) regularly read his work and carefully check for spelling errors?
- b) find checking his work a pain?

7. Is his work area:

- a) best described as a filing system?
- b) best described as a piling system (pile 1 and pile 2)?

8. When he is given test and exam dates, does he:

- a) usually plan in advance and create a time table?
- b) only really get started the day before the deadline?

9. Which box would he readily pair with box 1:

- a) box 2?
- b) box 3?

1



2



3



10. **When faced with a problem would you say he:**
 - a) responds on gut feeling?
 - b) gathers and analyses before he responds?

11. **When he is working on his portfolio of evidence, is he more likely to:**
 - a) jump in head over heels?
 - b) do research and plan who needs to do what by when, and end up doing most of the work?

12. **Does he prefer to:**
 - a) read a book?
 - b) watch a movie?

Scoring the test

Score 1 point for 1b, 2a, 3a, 4b, 5a, 6b, 7b, 8b, 9b, 10a, 11a, 12b.

No point for 1a, 2b, 3b, 4a, 5b, 6a, 7a, 8a, 9a, 10b, 11b, 12a.

Add score out of 12. Now circle the score on the continuum below:

More left brain 0 1 2 3 4 5 6 7 8 9 10 11 12 **More right brain**

Scores 0-5 indicates a more left brain preference, while scores of 7-12 indicates a more right brain preference.

Score of 6 indicates that the left and right brain are equally involved.

* This is not 100% accurate. For an accurate assessment visit www.mindmoves.co.za or click here: [Advanced Mind Moves Instructor](#)

3. How does this work?

Each answer represents a more left or right brain response:

Left Brain Characteristics	Right Brain Characteristics
1. a focus on pieces	b focus on whole picture
2. b prefer words	a prefer pictures
3. b follow instructions	a prefer to experiment
4. a need to know the details	b enjoy the unknown
5. b logical	a intuitive
6. a careful and perfectionist	b impulsive
7. a organised	b problem solver
8. a plan ahead, make lists	b thrive on a challenge
9. a prefer words	b prefer symbols
10. b rational	a instinctive
11. b start at the beginning	a start with the end in mind
12. a prefer to hear	b prefer to see.

CASE STUDY

Miss Jones has just wrapped up a stunning natural science lesson on the different kinds of clouds. She is telling the learners what she expects them to include in their portfolio to show that they know their work.



Phia's left brain is more dominant and she immediately takes out her homework book and writes the details down and the date when the portfolio must be handed in. She checks with Miss Jones that she has all the information and asks for more details on the length and content and writes these requirements down as well. She feels a little stressed and unsure of where to start because she likes to plan ahead and do things well.

Mary's right brain is more dominant. She listens while Miss Jones tells them about the requirements for the portfolio and immediately starts thinking of clouds; then about what shapes they make; then about the time she was lying on her back watching the vultures high up amongst the clouds when the family was on holiday in the Kruger National Park; she remembers the long times sitting quietly in the car and the beautiful little impala that came grazing around their chalet. She thinks how much easier it would be to make a model of different kinds of clouds using cotton wool or paper maché and clean forgets to write down the deadline and all the other details. She is so excited to get started.



Miss Jones asks the class to take out their reading books and open them up on page 12. **Phia's** book is out and open on page 12. **Mary's** head is still in the clouds and the moment she takes out her reader she forgets about the assignment (until the day before the deadline), and asks Miss Jones to repeat the page number, please.

Phia's brain dominance helps her to focus on the details and she follows verbal instructions step by step. **Mary** isn't dumb or naughty. Her brain dominance just makes it more difficult for her to focus on hearing the instructions and writing them down simultaneously without daydreaming about the clouds. It would have been easier for her had the teacher written the instructions on the board. She could then daydream about the clouds while copying from the board.

4. Left brain and school

School is generally designed around left brain characteristics and assessment is generally designed based on left brain principles. Children with a left brain dominance should therefore feel more at home in class and their marks generally reflect that.

BUT if a left brain dominant child is taught by a more right brain dominant teacher: she might feel lost in all the hands-on experiences offered by the teacher; she may need more details; she may not like getting her hands dirty; she may find the lack of structure stressful and, without clear instructions, she may feel totally lost in class.

The child with left brain dominance prefers:

- to work on her own and not in groups
- to start a lesson with a clearly defined topic
- step by step and detailed lecture type lessons
- time to ask questions during the lesson
- followed by exact and clear assessment criteria and deadlines
- time to double check the assessment criteria with the teacher
- not to have to guess anything.

5. Right brain and school

Traditional schooling is generally not designed around right brain characteristics and assessment is generally not designed based on right brain principles. A child with a right brain dominance often doesn't feel at home in class and her marks generally do not reflect her level of insight and understanding.

The classroom design where everybody sits in straight lines; the step-by-step approach adopted by most teachers and the "I teach, you listen" style works well for the more left brain dominant learner, but not for a more right brain learner.

The child with right brain dominance prefers:

- to work in groups
- to start a lesson with a clearly defined outcome
- to learn hands-on from experiences, experiments and real life
- time to find out for themselves and not to be told in advance
- to summarise their experiences in a diagram or mind map
- practical examinations.

BUT...
**There is nothing right in the left brain and
there is nothing left in the right brain**
Anon

6. Your child is not a left or a right brain. Your child is whole brained.

If a child only uses his left brain and the teacher asks a question in a different way to the way he has learnt the information, or if it includes a drawing or table the child has never seen before, he stresses and cannot answer the question.

If a child only uses his right brain he may guess read the question or interpret the question from a different angle, but in both instances may miss the mark. He may also write an answer in words not identical to the worksheet or memorandum and hence lose more marks.

If a child uses his whole brain he will use the detailed oriented left brain to read and analyse the question accurately and his big picture oriented right brain to come up with the best possible answer to the strangely formulated question. His language skills in his left brain will combine with his problem solving skills in his right brain to come up with an answer that might dazzle the teacher and himself alike!

7. How does your child become whole-brained?

Prepare the brain to gain with Mind Moves®!

Mind Moves is a movement programme can be utilised on a daily basis to address whole brain development. The following Mind Moves (De Jager, 2009) can be done daily, 3 times per day and in a controlled manner.

Antennae adjuster

Rub the left and right earlobes simultaneously from top to bottom. This move develops the near senses, auditory processing, auditory perception as well as receptive language ability.



Focus adjuster

Keep the head straight, look at the thumb at elbow distance and slowly bring the thumb to the tip of the nose. Focus on the thumb and move it to arm's length. Focus on the thumb held at arm's length, then on a point further away, and back on the thumb. Bring the thumb to the tip of the nose while focusing on the thumb. Repeat 10 times. Rub the hands and place the warm palms over the eyes to relax them.



Bilateral walk

Touch the left knee with the right hand, twisting the trunk to bring the opposite shoulder and hip towards each other, extending the other arm and leg. Now touch the right knee with the left hand, extending the other arm and leg.



When doing homework or planning a portfolio be whole brained by:

- starting with a clearly defined topic
- reading the instructions or questions carefully
- discussing the possible answers
- drawing a mind map to plot your plan
- determining what you already know
- determining where to look for more information
- putting it all together in a organised manner
- rereading the instructions/question to ensure you are on target
- adding something unique
- being ready on time.

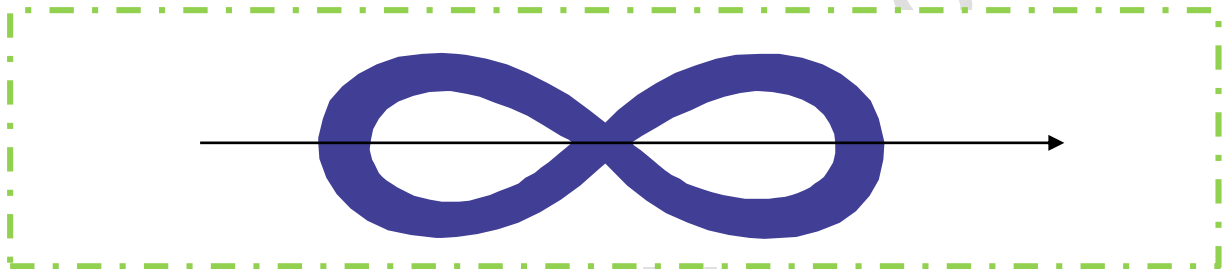
**The brain – as wonderful as it is – cannot make its own information,
the brain relies on the senses for information**

8. Sensory preference

The senses fill the brain with experiences - smells, tastes, sounds, pictures and feelings. When learning in a classroom environment a child does not use the sense of smell and taste as much as seeing, hearing and feeling. Except if you do baking at school – then all the senses are involved and that is exactly why it is such a pleasurable lesson!

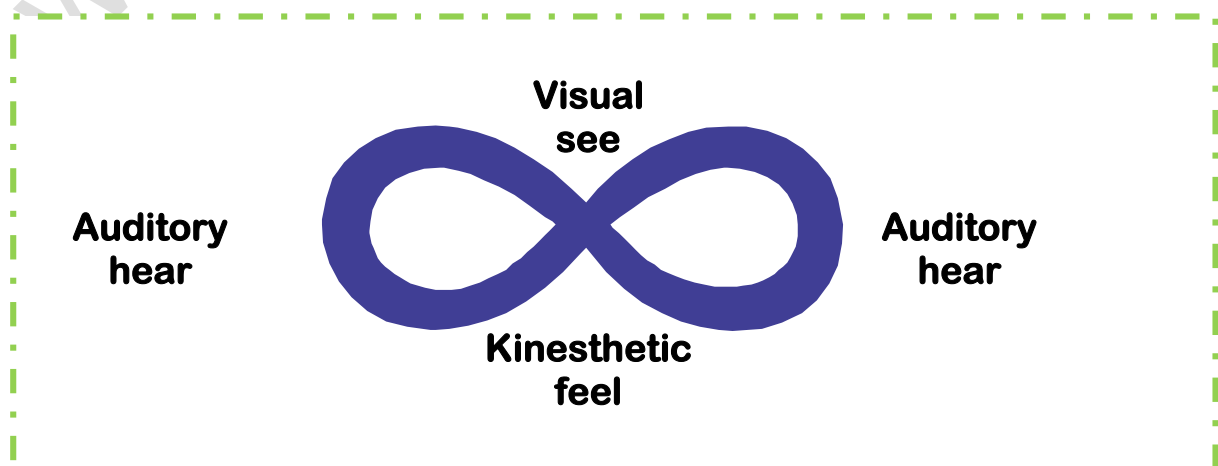
**The more senses involved in any learning experience –
the better the quality of learning**

Even though all the senses are available at any given moment, a child tends to use one sense a little more than the others. To determine which sense is your child's preference, turn a page landscape and ask your child to draw an 8 lying on its side, like the following example. Draw a line through the crossing point of the eight.



The shape of the eight is a neat indicator of his preferred sense, because:

- When the eight is bigger above the line – it indicates that the eyes turn upwards more often, “clicking on the button” in the brain that accesses vision. This means the child is a visual learner.
- When the eight is flat and thin like a mask it is because the eyes turn towards the ears more often, clicking on the buttons in the brain to access hearing. This means the child is an auditory learner.
- When the eight is bigger below the line and looks like droopy sunglasses it is because eyes turn downward to click on the buttons to access awareness of touch and feelings. This means the child is a kinesthetic learner.



VISUAL preference	AUDITORY preference	KINESTHETIC preference
<p>Strengths</p> <ul style="list-style-type: none"> <input type="checkbox"/> Conscientious about personal environment <input type="checkbox"/> Unlikely to be distracted by noise <input type="checkbox"/> Usually likes to sit where he can see clearly - in front in class <input type="checkbox"/> Usually works neatly <input type="checkbox"/> Benefits from the use of large pictures, posters, models, DVDs and real life examples <input type="checkbox"/> Appreciates certificates and trophies <p>Weaknesses</p> <ul style="list-style-type: none"> <input type="checkbox"/> Easily loses concentration in lectures <input type="checkbox"/> Struggles to grasp information that has not been written down <p>What should you do if you are a visual learner?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Organise your environment so it is neat <input type="checkbox"/> Make notes using diagrams, flow charts and bullet points <input type="checkbox"/> Read new information rather than listen to it <input type="checkbox"/> Create mental pictures to aid memory <input type="checkbox"/> Approach all verbal instructions with extra concentration and pen in hand 	<p>Strengths</p> <ul style="list-style-type: none"> <input type="checkbox"/> Enjoys discussions <input type="checkbox"/> Absorbs verbally presented information easily <input type="checkbox"/> Is at his best in a face-to-face or telephone conversation <input type="checkbox"/> Sits where he can hear. Does not always look at what is shown <input type="checkbox"/> Talks a lot <input type="checkbox"/> Appreciates verbal acknowledgement <p>Weaknesses</p> <ul style="list-style-type: none"> <input type="checkbox"/> Is poor at visualisation <input type="checkbox"/> Is easily distracted by noise <input type="checkbox"/> May battle to be quiet – has to talk things through <input type="checkbox"/> Is unable to concentrate in a noisy environment <p>What should you do if you are an auditory learner?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Listen carefully to verbal presentations <input type="checkbox"/> Ask for verbal explanations <input type="checkbox"/> Read instructions or written passages out loud; explain them to someone else <input type="checkbox"/> Dictate material onto a mp3 player, play it back and listen <input type="checkbox"/> Keep noise and other distractions to a minimum <input type="checkbox"/> Read out loud. 	<p>Strengths</p> <ul style="list-style-type: none"> <input type="checkbox"/> Prefers actions to words <input type="checkbox"/> Learns by doing <input type="checkbox"/> Often chooses a place where he has space to move around, e.g., on the fringe of a group <input type="checkbox"/> Needs short breaks <input type="checkbox"/> Uses hand movements and gestures while talking <input type="checkbox"/> Values a pat on the back or a hug or something tangible <p>Weaknesses</p> <ul style="list-style-type: none"> <input type="checkbox"/> Restless / Moves a lot <input type="checkbox"/> May be bored when no movement or hands-on involvement is allowed <input type="checkbox"/> May get lost in a chalk and board experience <input type="checkbox"/> Finds it difficult to repeat what has been heard <p>What should you do if you are a kinesthetic learner?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Act out new scenarios before the real event <input type="checkbox"/> Make notes / draw pictures in text margins <input type="checkbox"/> Seek practical demonstrations <input type="checkbox"/> Use a stress ball or Pilates ball to move while learning <input type="checkbox"/> Strengthen your visual and auditory input with whole brain moves.

9. Left and right handedness

To learn, a child's preferred sense needs to fill the brain with experiences and knowledge before the child can respond. In a classroom environment a child normally responds either verbally by answering a question or by writing an answer.

Have you noticed how a young child moves its mouth or tongue while trying to colour in between the lines or when cutting on a line? It is because the hand and the mouth are on the same neurological loop in the brain, which means the mouth helps the hand with fine motor control.

Have you noticed how people tend to rub and wring their hands before they do a speech? It is because you stimulate clear speaking when you rub or wring your hands together.



A child's hands are very important in the learning process because the hands are involved with input (kinesthetic learning) and the hands are involved with output (speech and writing).

Does it matter whether a child is left or right handed?

No, it doesn't matter as long as: a child has a dominant hand; his fine motor skills are well developed and his eye-hand coordination is on par.

Handedness doesn't determine intelligence

Fine motor skills develop well when the hand position allows the thumb to propel the hand forward. That means that the right handed child will write with a straight hand and the thumb will be to the left of the rest of the fingers. A left handed child will hook his hand to allow the thumb to be to the left of the rest of the fingers to propel the hand forward.

Forcing a left handed child to be right handed is not a wise choice. Remember the hand and the mouth are on the same neurological loop? When handedness is changed it means that the natural neurological loop between the hand and the brain gets interrupted, which may impact on: a child's ability to express himself clearly, his tempo of work which will slow down and, in some cases, can promote speech difficulties like stuttering, and selective mutism (can speak but refuse to speak).

10. In conclusion

A child is born whole but, owing to survival needs, he develops a preferred sense (visual, auditory or kinesthetic). These senses send information to the child's preferred side of the brain (left or right) where the information is processed before it is sent to the preferred hand for verbal or written feedback.

The above is an over simplification of the learning process, but for the purposes of this article it acts as a model of how a child can learn and how his preferences may create difficulties in the learning process. This model also serves to illustrate that some children's innate dominance results in them naturally being favoured by the school system (left brain auditory learners).

Irrespective of your child's dominance, encourage him to develop his non-dominant bits to function as a whole child who can:

- listen (auditory) and respond just as well as learn by reading (visual) or hands-on (kinesthetic) experiences
- focus on details or on the bigger picture when it is called for
- plan and who can instinctively respond when an opportunity knocks
- be flexible and adapt to any learning environment
- communicate with ease and clarity.

*As long as you can DO something about it,
you are on your way to success*

- Ayres, J. 1980. *Sensory Integration*. Los Angeles: Western Psychological Services.
- Ayres, J. 1983. *Sensory Integration And The Child*. Los Angeles: Western Psychological Services.
- Blythe, P. & McGlown, D. 1979. *An Organic Basis For Neuroses And Educational Difficulties*. Chester: Insight Publications.
- De Jager, M . 2004. *BabyGym*. Cape Town: Human & Rosseau.
- De Jager, M. 2006. *Mind Moves*. Linden: The Bg Connexion.
- De Jager, M. 2009. *Mind Moves – moves that mend the mind*. Johannesburg: Mind Moves Institute.
- Goddard, S .2005. *The Well Balanced Child*. Gloucesterhire: Hawthorn Press.
- Goddard, S. 1996. *A Teacher's Window Into The Child's Mind*. Oregon: Fern Ridge Press.
- Kranowitz, C. 2005. *The Out Of Sync Child*. New York: The Berkley Publishing Group.
- Lombard, A. 2007. *Sensory Intelligence*. Welgemoed: Metz Press.
- Shaw, S. & Hawes, T. 1998. *Effective Learning And Teaching In The Primary Classroom*. Leister: The Services Ltd.