

# Building Creativity Training: Drawing with Left Hand to Stimulate Left Brain in Children age 5-7 years old

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## Abstract

Researcher and professionals that started researching about brains since 1930 believe that left brain is a rational brain, which is tightly related with the IO, rational thinking, arithmetic thinking, verbal, segmental, focus, serial (linear), finding the differences, and time management, Meanwhile right brain is the part of brain that controlled emotional thinking, which is tightly related to EQ, intuitive character, spatial thinking, visual, holistic, diffuse, parallel thinking (lateral), finding the similarities and not depending on the time. Reputedly our brain dualism are the one who make human think really binary. Even though like that, both of the brains work together and support each other. Which one is more important? The left brain or the right brain? Drawing is one of the activity that can activate our right brain hemispheres, but then our education system in school is build that way, where creativity and imagination are put inside the box and only demand one right answer. And our children is more and more leaning towards the "left world", when the school extend the hours until nearly evening and they added more homework loads, even sometimes the school cancel the art subject in school. So when is the time for our children to play and hang out? And drawing for children is mostly restricted with the tools, themes, ways to do it, times, places, etc. so they can't really explore what they had been imagined to be creative.

**Keywords:** Hemispheres, Right brain hemispheres, Drawing, Children age 4-8 years old, Creativity

## 1. Right brain hemispheres or Left brain hemispheres, which one is more important?

Human has two types of thinking process. One is conscious mind and another one is unconscious mind. The emerging of mind-sets are caused by the modality and modality of the work process and accepted by the five senses a human, touch, feel, smell, taste and hear. Conscious mind-set functions are identified data that come in, comparing with the data that have been stored in, and choose which data that will be keep, thrown, or ignore for a certain amount of times in the memory. So human unconscious minds have a bigger capacity with our conscious minds that have more complicated functions. All our human organs working process are being controlled by our unconscious minds, except than our values, trust, and belief about something is also stored here. Our long term memory is also stored there. These mind-sets are the one controlled by human brains.

In our recent thirty years, research about human brains (*brain lateralization*) is getting more and more advanced, one of the example is researchers found a prominent result on finding the differences between left brain hemisphere and right brain hemisphere. Before this research had been conducted, Psychology experts contend that both sides of human brain is working identically. Even some thinks that right brain hemisphere is just a spare hemisphere if the left brain hemisphere experience malfunction. So then this wrong accusation is broken by a research by the expert in around 1960, his name is Roger Sperry. He said that human brain consist with two different hemisphere, left and right and both of the hemisphere have a

different functions. He also found that when the right brain hemisphere is working the left brain hemisphere is tend to be calmer and also works the same the other way. Both part of the brain are complementing each other and supportive towards each other. If there is one part that is more dominant, it doesn't mean that the brain abolish the other part. So the brain doesn't have an on- off button (if one part is on, the other one is off).

Both hemispheres have a different function. Right brain is located in an anatomical positions (frontal) if seen from front view, has functions for, emotional intelligence (Emotional Quotient), relationships between people (socialization) communication (non-oral languages), art intuitive development, controlling expressions, imaginations and creativity control center, lateral a non-structural thinking, non-detailed thinking, long term memory, expertize on determining spaces, colors, and places. If there is a malfunction in the right brain hemisphere it will affects the visual and emotional ability.

Meanwhile the left brain hemisphere that located in the left side anatomically, when you see in frontally have functions as the intelligent quotient (IQ), rational and logical thinking development center, verbal language, thinking structurally and linear, thinking analytically and gradually, short term thinking, if there is a malfunction in the left brain hemisphere, the one that will be affected are verbal, language and math function.

Right and Left brain function in human is mixed together functionally, so it cannot be said that the right brain is better than the left brain or the other way. Even though, in some individuals sometimes they tend to use one part dominantly. The dominance usage of one brain parts is actually the one that differentiates one individual talents and interests.

Right brain and left brain hemisphere are supposed to be able to train, if the usage is balanced so the human will be able to 'switch' which brain parts that they will use when it's needed

Basically, Left brain hemisphere has an analytical function and the right brain hemisphere has syntactical function. Right brain hemisphere has thinking ability that able to unite parts to shape the overall concept parallel which not directly tied by structural steps based on space and time so can increase the creativity, not a robot

But in reality right brain hemisphere is always being forgotten, especially in the educational world. Conventional education system that started since Kindergarten, Elementary until University Level are mostly using Math, Logic and Language skills as the indicator children intelligence, secondly is Social skills and Art Skills is the last.

Education is forcing our left brain to work harder and rarely care about the right brain development. Because our educational systems nowadays is weighing heavily on the cognitive aspect in the knowledge area and ignore creativity, until it makes children to think divergently and non-conventionally.

Our education systems, in school or even in the family, since beginning it's full of thinking structural and linear which are located in the left brain hemisphere. But in fact too much training in the left brain hemisphere will produce a child that will be "on-off", which is smart like a robot or computer, but lost the very important part of his/ her futures, which is thinking structure which using inner voice, using their imaginations, overall and free or without any pressure and order from anyone.

Even though both brain hemispheres have a different function, each individuals will has a propensity to use more dominantly one part of their brains. If someone has a more dominant left brain hemisphere, so he or she will be easier to respond critiques which related with peeling or look thoroughly, declaring, analysing, explaining, discuss, and deciding. Different with the one who has a more dominant right brain, He or she will be easier to responds in visual stuffs, pointing, demonstrate, playing, sports, singing, and another activity that require a good fine motor skills. Even though like that both brain hemisphere are both equally important, depends on which part that has been used.

People have a balance in life; tend to use both parts optimally. For example to give a balance in both brain parts, need to be given an arts and music into their learning process which make learning process which have the aim to give extreme influence to themselves, after they use both brain parts balanced. So each individual have a same potential with others, even the people who succeed in gaining whatever they wanted. The difference is how to maximize our brain function. People who are usually labeled as genius is the peoples who can optimize both their brain parts in balanced even though have a different function.

Capacity from human conscious minds is only 12% from the whole brain capacity, so the rest is potential capacity unconscious minds which take around 88%. A genius can optimize his or her conscious minds around 5%- to 6% more than a normal human brain which can only optimize around 12%. One of the example is Albert Einstein. Base on the research, each brain cells are connected with another brain cells will help with the thinking process. More connection between our cells in our brain, our brain can be considered smarter. Normal human being use around 4% from our conscious minds capacity.

But we can still improve the potential, as long as you know how to train it. There are only one million peoples in this world that can optimize their conscious minds to reach around 4% and as you can see their achievement are great.

Roger W. Sperry said that brain is divided into a left hemisphere and a right hemisphere, which the left brain function is to coordinate all the left side organ. The other way is the same, Left brain hemisphere function is to coordinate all the right side organ. That's why right brain hemisphere works in the left hand, and the other way, which is if a person use his or her right hand to works on something, so the movement is being controlled by his or her left brain, and that also works for the other way. If a person is tend to use their right hand more so his or her left brain is more trained, is also works with the left-handed people, so his or her right brain is more trained.

The connector of brain hemisphere is called *corpus callosum*. Both brain hemisphere's communicate with each other using this *.Corpus Callosum* who give the information to the right hand what is the left hand doing. Each brain hemisphere get the information with a different styles. Left brain hemisphere is a speaking center, where we can get an ability to create thinking and to translate it into words. Right brain hemisphere control fine motor skills, intuitions and emotions. These thing make us able to recognize and identify picture. Meanwhile left brain hemisphere thinks in words, right side looking at the picture. Creative individual like artists, writers, or musicians always connected with both parts (right brain hemisphere and left brain hemisphere).

With this condition is possible to switch from one side to another side, to use both brain hemisphere. A human can make changes, depends on a situation where he or she found her or himself inside it. So we can see the changes from the right brain hemisphere, where creativity located, into the left brain hemisphere side where the logical and analytical thinking located or the other way.

But most humans were born with one part of the brain more dominant then the other, with influences

that come from genetic aspects, family living environment, and training during childhood, of course there is still exclusion there. And changes is always possible, both brains hemisphere can be train to become better. Whichever side of the brains is more excel, like it or not, will determine their talents, skills, and even their weakness.

Left brain hemisphere control the logical, analytical, sequence, rational, linear, verbal, sides that orientation with their natural destinations. Right brain hemisphere control intuitive thinking, spontaneous, emotional, visual, art, happiness, the non-verbal side natural being.

The right brain person is easily spotted. They are more likely to daydream, draw, and sometimes look unique. They can make unexpected decisions to get what they wanted. They know more about color, smells and aroma, and is more able to visualized scenario, especially when the “if”. Realize more about the emotions and people emotions around them, easier to build a relationship with people around them, and understand their views or experiences. More intuitive and spontaneous.

The left brain people are always asking and wanting the answer more than anything. Sometimes they will be the lists maker and the planner, their ideas are fun, like to writes, tend to follow the schedule and time more, and plan everything until the last details, more analytical and tend to separate the problems into several components.

Basically each human have a same basic tools to use during their lifetime. Everything that they do, think, or feels, are directed to brain and filtered by the left or right brain hemisphere. So the size of the brain is nor important, but the one that the brain do are far more important. The differences are will be able to make changes and go back to be easily use both parts of the brain to achiever the best results. So how we can train their brains to be more effective? One of the exercises is drawing using the hand that rarely has been used. That what I did during this experiment, using children to do it to find out how big is the influence on motivating their own creativity.

Basically human use more of their right hands to do something, just several percent people in this world that are left-handed. But is even more rarely you can find people that can use both of their hands well. To make bran to be better is to learn in order, and then trained and prolonged practiced. This exercise also useful to train the brain hemisphere that is not usually used because or habit.

For the drawing activity which believe van develop children creativity and imaginations, sometimes being established like this. Started with time, places, tools, ways, themes restriction or even the freedom to use any hands that they want. But like we understand using the right hand will stimulate the left brain, is the same with another activity at school.

Because the right brain is forgotten for a while, especially in the education world, Only the leaning process is the Playgroup and kindergarten are the one that still use a lot of right brain hemisphere. So young children is a model in an experienced right brained people. Basically the older a person is the more that they lean towards on the left orientation. So what Pablo Picasso said that *“Every child is an artist. The problem is how to remain an artist once he grows up.”* Is kind of make sense.

Why activate the right brain is important? Because like we all know the right brain characteristic are alive, happy, and spontaneous. Because of that character are, the right brain can make jokes, games, stories, simile, creativity, visual, music, intuition, synthetic, empathy, hospitality, grace, and the meaning of life. Right brain will bring a bigger success if you compare with the left brain, because the right brain is the one who supports the EQ (Emotional Quotient) and SQ (Spiritual Quotient).

Children recognize the visual language first compared to words. Until now the capacity of the teachers, parents, and guardians to understand children visual language can actually bring down a children passion to draw and indirectly slowing down a children creativity development. Children see and draw with a different way with adults. No children don’t like to draw. If there is a “don’t like” words, there are always reasons behind it. During the drawing process, experimenting, expression, creation melt into a “drawing” game which also a learning process. Drawing for children are integration from all their senses. Touch, taste, smell, feel, and listen. In this drawing process the children become all-in. All parts of them are involved, physical, creativity, ratio, senses, shapes, images sources full with movie and their nuance, as if whatever they draw is really happening not only a drawing job.

But even though drawing activity for children is barricade by rules that stated above. If children still using their right hand as a toll to draw which orientate to activate their left brain, because isn’t that the brain works the other way. How if we use the left hand as a tool? This is the thinking behind this research.

## **2. Drawing using left hand to stimulate the right brain**

This experiment is conducted with a research by the professional that said that hands control by the other side of the brain, so all the participant asked to use their hand that they rarely use. If a child usually uses his or her right hand to draw, He or she asked to use their left hands and the other way. Because almost most of the use their right hand to draw, and only several left handed children so it’s believe that the right brain is more likely to be

forgotten.

When we started most of the participants are refuse to use their left hand or their right hand if they are left handed, with many reasons. According to them the results will be ugly or not as good as when they can use their right hand. But after given the explanation that this activity can activate their right brain which will motivate them to be more creative and imaginative, they started to try it. Even though when they started, they were facing some difficulties carefully and slowly they found they own way to do it.

Aside being given an obstacle which is a difficultly by using a hand that rarely has been used, they also been given a imagination challenges which is a theme that they need to portray in their artworks. The challenge is a drawing question that needed a thinking and decision making in the execution or what they need to portray in their drawing. The example of the drawing question is making my own monsters or robots?

At first they need to wrote their title in words with the hand that rarely been used and also the wording of "I drew using my left hand" and after that they started to draw with the same hand using a black permanent marker, after that they colored it. Some experiments started with a story-telling session and some are being give questions that will trigger their imagination: "If you can make robots? What kind of robots that will you create?" "If you being given wings so you can fly", "If you being given a lot of money" etc. According to research in this experiment, if children being stimulate by a story-telling they will be more imaginative, so not rarely that children drew simultaneously while they were telling the stories behind it.

The next experiment is continued by coloring stage using a finger painting method for the younger children around (4-6 years old). Stimulations directly by fingers is more effective in training their fine motor skills which involve their small muscles and nerves maturity, also can introduce primary color concept and also mixing primary colors into secondary and tertiary colors concept. It can also train children imagination and creativity while playing with colors and also still with the hand that they rarely use. During this coloring process, they found the fun behind it and they getting used to their left hands. But is that enough to stimulate their right hands?

### **3. How about the leftie?**

The problems with the children that usually use their right hand, can be solved with using their left hand from time to time. But how about the left handed children? A very dominant left hand also can make their right hand vulnerable, because they rarely use it. Except if it's not too dominant, in some activity they still use their right hand. The left hand only used for writing, cutting or anything that needed their fine motor skills. Or the other way writing with their right hand but kicking ball with their left leg (ambidexter).

The leftie also having an enough problems when being asked to draw using their right hand. During the experiment some of the right handed children saw some of their friends who are left-handed drawing using their right hand and they complained to their tutor "Why they are allowed to use their right hand?" After given the explanations that their friends are used to using their left hands to write or draw, then they understand. And after they ask the left-handed children, the right handed children who asked understood about the matter. They asked "Is it hard to use your right hand to draw?" and he answered "Yes, really hard." And then the right handed child who asked feeling contented.

After they done, mostly they are happy because the results are unexpected they still can produce a good and nice drawing even though they are using their opposite hands and some of the children said that their left hand drawing results are better than the one they use their right hands. But really maybe they had a left handed tendency when they were younger, but most parents forced their kids to use their right hands. And when being asked to the parents some of them kind of agreed that they had a tendency to be the left-handed kids but they forced them because they are reasons of being not polite or taboo or can disturb the learning process in school. Because the left handed kids needs different treatments, like some special tools for the left handed like scissors, guitar, etc. And also the seating arrangement they always need to be seated at the left side because if not their hands will collide if they seat with partners.

### **4. How about the results?**

Even though it's started with much difficulties because using the hands that they rarely used to draw, but it's suggested that they can even train it with a different activities at home, which usually dominated by using one hand only and swap it into the other hand. With this activity, I hope that it can actually stimulate the other brain. Especially with the right handed children. In this experiment you can see that how the participants tried many ways, even from the start it was quite hard but after they concentrated they can get used to is and it feels easier.

#### *4.1 Drawing Process.*

During the drawing process, you can see the participant trying to find their best way to hold their drawing tools correctly, so can make the best drawing as good as their right hand. Some of them can get used to it easily, and some of them having difficulties to find the best way to draw. Starting with writing "I can draw using my

left/right hands” words. After they done it and quite used to it, they felt better and can actually pour their ideas which also will get another obstacles being given a theme that also need them to think what they need to draw. After they can grasp the control to their hands that they rarely been used to draw, so it’s not they reach the result easily. Sometimes they keep on forgetting and forgetting, so they need to keep on redoing it.

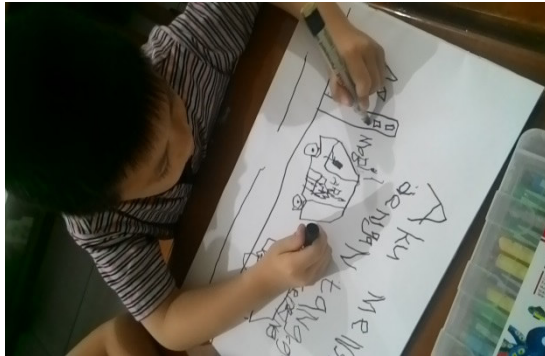


Figure 1, 2. Experiment drawing with left hand

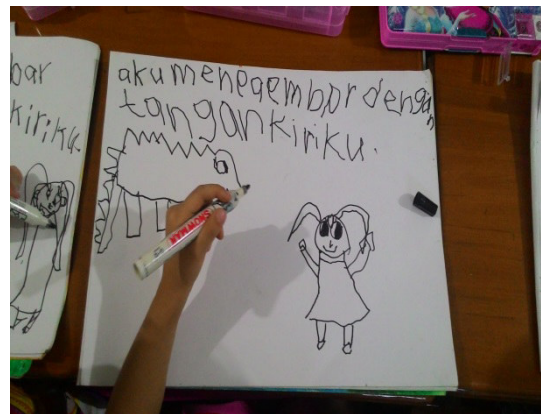


Figure 3, 4. Experiment drawing with another left hand



Figure 5,6. Experiment drawing with another left hand

### 1.2. Coloring Stage

During their coloring stage, almost all the participant can enjoyed their drawing activity using their hands that rarely been used. Even sometime there were some that always want to switch their hands unconsciously. But surprisingly younger age children with the finger painting method, they rarely switch their hands into the hand that they use to used, because paint that stick into their fingers is like the foreshadow that make them remember which hands that they needed to use. There is the tactile touch feeling This is due to tactile touch feelings.

There were some differences with the participants who used their crayons to color their drawings. The reason for this is because the function is almost the same as with pencils or markers that are used to write. Thus, they sometimes wanted to move it into the hand they are typically used to using.



Figure 7, 8. Coloring Stage



Figure 9,10. Coloring Stage



Figure 11. Coloring Stage



Figure 12. Coloring Stage

## 5. Drawing Results



Figure 13, 14, 15, 16, 17, 18. Drawing Results

## 6. Conclusion

Drawing for children is integration for all their senses, touch, feel, listen, taste and listen which are integrated with their physical, creativity, and their rationale. And mostly using their right brain hemisphere in the process. So using the right hands which any tools and materials they can still be imaginative, then it will be even better if getting the correct stimulations

Founding of drawing activities, especially in schools, with a lot of boundaries that being given by the teachers and the curriculums from the time, tools, theme, even how to draw it, making it more prominent that they need to activate their right brain so the children can be and imaginative, expressive, creative, happy, and brave children..

With training drawing using their left hands( The hand that rarely use), can activate their right brain more effectively because the drawing activity itself already trained the right brain, and also can train their left hand to stimulate their right brain to be more active. With the right brain it will stimulate their creativity growth also

Some children have a left-handed tendency from young, can be train more their thinking ability potential with their right brain after being forced to be the left because different reason from the parents (taboo,

not polite, rare tools, etc.)

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