

# What's Your Learning Style?

To learn, you depend on your senses to bring information to your brain. Most people tend to use one of their senses more than the others. Some people learn best by listening. They are called *auditory* learners. Other people learn best by reading or seeing pictures. They are *visual* learners. Still others learn best by touching and doing things. They are called *kinesthetic* learners.

Scientists and psychologists don't know why people use one sense more than the others. Maybe the sense they use the most just works better for them.

Knowing your learning style may help you to learn. It may also explain why some things just don't make sense to you.

For these questions, choose the first answer that comes to your mind. Don't spend too much time thinking about any question.

1. Which way would you rather learn how a computer works?
  - a. watching a movie about it
  - b. listening to someone explain it
  - c. taking the computer apart and trying to figure it out for yourself
2. Which would you prefer to read for fun?
  - a. a travel book with a lot of pictures in it
  - b. a mystery book with a lot of conversation in it
  - c. a book where you answer questions and do puzzles
3. When you aren't sure how to spell a word, which of these are you most likely to do?
  - a. write it out to see if it looks right
  - b. sound it out
  - c. write it out to sense if it feels right

4. If you were at a party, what would you be most likely to remember the next day?
  - a. the faces of the people there, but not the names
  - b. the names but not the faces
  - c. the things you did and said while you were there
5. How would you rather study for a test?
  - a. read notes, read headings in a book, look at diagrams and illustrations
  - b. have someone ask you questions, or repeat facts silently to yourself
  - c. write things out on index cards and make models or diagrams
6. When you see the word "d-o-g," what do you do first?
  - a. think of a picture of a particular dog
  - b. say the word "dog" to yourself silently
  - c. sense the feeling of being with a dog (petting it, running with it, etc.)
7. What do you find most distracting when you are trying to concentrate?
  - a. visual distractions
  - b. noises
  - c. other sensations like hunger, tight shoes, or worry

8. How do you prefer to solve a problem?
- make a list, organize the steps, and check them off as they are done
  - make a few phone calls and talk to friends or experts
  - make a model of the problem or walk through all the steps in your mind
9. Which are you most likely to do while standing in a long line at the movies?
- look at the posters advertising other movies
  - talk to the person next to you
  - tap your foot or move around in some other way
10. You have just entered a science museum. What will you do first?
- look around and find a map showing the locations of the various exhibits
  - talk to a museum guide and ask about exhibits
  - go into the first exhibit that looks interesting, and read directions later
11. When you are angry, which are you most likely to do?
- scowl
  - shout or "blow up"
  - stomp off and slam doors
12. When you are happy, what are you most likely to do?
- grin
  - shout with joy
  - jump for joy
13. Which would you rather go to?
- an art class
  - a music class
  - an exercise class
14. Which of these do you do when you listen to music?
- daydream (see images that go with the music)
  - hum along
  - move with the music, tap your foot, etc.
15. How would you rather tell a story?
- write it
  - tell it out loud
  - act it out
16. Which kind of restaurant would you rather not go to?
- one with the lights too bright
  - one with the music too loud
  - one with uncomfortable chairs

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## What's Your STYLE?

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Total your a's, b's, and c's:

a's  b's  c's

- If you scored mostly a's, you may have a visual learning style. You learn by seeing and looking.
- If you scored mostly b's, you may have an auditory learning style. You learn by hearing and listening.
- If you had mostly c's, you may have a kinesthetic learning style. You learn by touching and doing.
- If you circled more than one letter about the same number of times, you depend on more than one learning style.

It's not unusual to use different learning styles for different tasks. For instance, you might repeat your German lessons out loud to prepare for a test, but study your textbook to prepare for your math quiz. And you might repeat some experiments you did in class to prepare for your chemistry test.

In these cases, you're using an auditory style to learn a language. You're using a visual learning style to learn math. And you're using a kinesthetic style to learn chemistry. Each one helps you learn what you need to know.

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"The more math you know, the more successful you'll be. It's a very powerful way to train your mind."

—Joyce O'Halloran, Ph.D., math professor

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## Find Out MORE

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- The next time you study for a quiz or test, put into practice what you learned in this PSI. If your learning style is auditory, read out loud the information you need to know. If it's kinesthetic, make a model or do something practical that will help you learn the information. If it's visual, read a text and study illustrations.
  - If you have to do a project in school, design one that fits your learning style.
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"They know enough who know how to learn."

—Henry Brooks Adams, historian

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## **“Your Style of Learning and Thinking”**

**DIRECTIONS:** Children think and learn about things in many different ways. Each question below talks about three different ways that children use to think and learn about things. Of the three, pick the one that best tells how you think and learn about things. Fill in (a) (b) or (c) on your answer sheet.

1. (a) I am good at remembering faces.  
(b) I am good at remembering names.  
(c) I am just as good at remembering names as I am at remembering faces.
2. (a) I answer best to directions which are told to me or written for me.  
(b) I answer best to directions when someone gives me an example.  
(c) I follow directions just as well in both ways.
3. (a) I like to let people know how I feel.  
(b) I show my feelings only with good friends.  
(c) I keep my feelings to myself.
4. (a) I like to try things I have not tried before.  
(b) When I try something new, I always like to think up different ways to do it before I try it.  
(c) I like to try new things as well as I like trying things that I have seen and thought about.
5. (a) I like teachers who give one homework assignment at a time.  
(b) I like teachers who ask me to study or work on many things at the same time.  
(c) I like either kind of teacher.
6. (a) I like tests where the answers are given to me and I am asked to pick the best one.  
(b) I like tests where I write out the answer myself.  
(c) I like both kinds of tests just as well.
7. (a) I can tell when a person is happy or not without the person telling me.  
(b) People have to tell me when they are happy or sad.  
(c) I can do both just as well.
8. (a) I am good at thinking up funny things to say and do.  
(b) I am not good at thinking up funny things to say and do.  
(c) Sometimes I am good at thinking up funny things to do.
9. (a) I like teachers who show me how to do things.  
(b) I like teachers who tell me how to do things.  
(c) I like both ways of learning just the same.
10. (a) I like to know everything about a question before I answer it.  
(b) I answer questions according to the way I feel.  
(c) I like to answer questions just as well both ways.
11. (a) I like to have fun when I try to figure things out.  
(b) I like to have quiet when I try to figure things out.  
(c) Sometimes I like to have fun when I figure things out and sometimes I like to have quiet.

12. (a) I like to make up my own games when I play.  
(b) I always like to play by the rules with no changes.  
(c) I like to do both just as well.
13. (a) I am willing most of the time to use anything around to get things done.  
(b) I am not always willing to use anything around just to get things done.  
(c) I like to use the right tools for the right job.
14. (a) I like teachers who tell me what to learn and how to learn it.  
(b) I do not like the teachers who tell me what to learn and how to learn it.  
(c) I like both kinds of teachers just as well.
15. (a) I always come up with new ideas or things.  
(b) Sometimes I come up with new things and ideas.  
(c) I never come up with new things or ideas.
16. (a) I come up with ideas best when I lie flat on my back.  
(b) I come up with ideas best when I stay in my seat.  
(c) I come up with ideas best when I walk.
17. (a) I like to learn about things I can use right away.  
(b) I like to learn about things even if I cannot use them right away.  
(c) I like to learn about things that I can use right away just as well as I like to learn about things that I cannot use right away.
18. (a) When I do not know the answer to a question, I like to take a guess at it.  
(b) When I do not know the answer to a question, I do not like to take a guess at it.  
(c) Sometimes I like to guess at things when I do not know the answer.
19. (a) I like to tell people just how I feel.  
(b) I like to show people how I feel with a poem, a song, or a dance.  
(c) Sometimes I like to tell people how I feel and sometimes I like to show people how I feel with a poem, song or a dance.
20. (a) Many times I get ideas from reading poems or looking at posters.  
(b) Once in a while I get ideas from reading poems or looking at posters.  
(c) I hardly get any ideas from reading poems or looking at posters.
21. (a) I like to answer simple questions.  
(b) I like to try hard questions.  
(c) I like to answer simple questions just as well as I like to try hard questions.
22. (a) I like to follow people who excite me.  
(b) I like to follow people who make sense to me.  
(c) I like to follow people who excite me just as well as I like to follow people who make sense to me.



23. (a) I like to work on one problem at a time.  
(b) I like to work on many problems at once.  
(c) I like to work on one problem at a time just as well as I can work on many problems.
24. (a) I like to learn about things that have been proven to be right.  
(b) I like to learn about what people think might happen someday.  
(c) I like to learn about things that have taken place as well as about things that might happen someday.
25. (a) I like to make sense out of everything I read.  
(b) I like to put into use everything I read and learn.  
(c) I like to make sense out of everything I read as well as put it into use.
26. (a) The way I answer a problem depends on how I feel inside.  
(b) I answer a problem by carefully picking the best answer.  
(c) I answer problems both ways.
27. (a) I like to picture the answer to a problem in my head.  
(b) I do not like to picture the answer to a problem in my head.  
(c) It does not make any difference to me.
28. (a) I like to answer questions by carefully picking out the best answer.  
(b) I like to answer questions by guessing.  
(c) I like to answer questions either way.
29. (a) I can explain myself better by talking.  
(b) I can explain myself better by moving my hands while I talk.  
(c) I can explain myself by either talking or by showing with my hands.
30. (a) I learn best when the teacher explains the lesson to me.  
(b) I learn better when the teacher shows me a picture of what she/he wants me to do.  
(c) I can learn either way.
31. (a) I remember better when the teacher explains things to me.  
(b) I remember answers better to problems I picture in my head.  
(c) I can remember things just as well either way.
32. (a) I like to figure out all the steps in the answer to a problem.  
(b) I like to write out everything about the answer to a problem.  
(c) I like to answer problems either way.
33. (a) I like to talk and write about things.  
(b) I like to draw and make things.  
(c) I like to do both.
34. (a) I get lost easily even in places that I have visited.  
(b) I can find my way even in strange places.  
(c) I like to do both.

35. (a) I rather do something than explain it.  
(b) I rather explain something than do it.  
(c) I do just as well either way.
36. (a) I like to be in noisy and crowded places where people do many things at the same time.  
(b) I like to be in quiet places where I am able to think carefully.  
(c) I do just as well in both places.
37. (a) I like best to draw and listen to music.  
(b) I like to do things with other people.  
(c) I like to draw and listen to music as well as work with other people.
38. (a) When I grow up, I would like to be a business man or a scientist.  
(b) When I grow up, I would like to be a teacher or a minister.  
(c) I really do not care what I will be when I grow up.
39. (a) I learn only what I read and what people tell me.  
(b) I learn lots of things that people don't teach me.  
(c) Sometimes I like to learn everything about things and sometimes I like to learn only the important parts.
40. (a) I like to use the things I hear and read.  
(b) I like to think about the things I hear and read before I use them.  
(c) I can go both ways.

M F

\_\_\_\_\_  
Your Name

\_\_\_\_\_  
Sex

\_\_\_\_\_  
Today's Date

\_\_\_\_\_  
Name of your School

\_\_\_\_\_  
School District

\_\_\_\_\_  
Grade

Age - Years Months

\_\_\_\_\_  
Right handed or Left handed

YOUR STYLE OF LEARNING AND THINKING

Blacken your choice:

1. (a) (b) (c)

2. (a) (b) (c)

3. (a) (b) (c)

4. (a) (b) (c)

5. (a) (b) (c)

6. (a) (b) (c)

7. (a) (b) (c)

8. (a) (b) (c)

9. (a) (b) (c)

10. (a) (b) (c)

11. (a) (b) (c)

12. (a) (b) (c)

13. (a) (b) (c)

14. (a) (b) (c)

15. (a) (b) (c)

16. (a) (b) (c)

17. (a) (b) (c)

18. (a) (b) (c)

19. (a) (b) (c)

20. (a) (b) (c)

21. (a) (b) (c)

22. (a) (b) (c)

23. (a) (b) (c)

24. (a) (b) (c)

25. (a) (b) (c)

26. (a) (b) (c)

27. (a) (b) (c)

28. (a) (b) (c)

29. (a) (b) (c)

30. (a) (b) (c)

31. (a) (b) (c)

32. (a) (b) (c)

33. (a) (b) (c)

34. (a) (b) (c)

35. (a) (b) (c)

36. (a) (b) (c)

37. (a) (b) (c)

38. (a) (b) (c)

39. (a) (b) (c)

40. (a) (b) (c)



# ANSWER KEY

## "Your Style of Learning and Thinking"

R-right

L-Left

I-Integrated

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- R 1. (a) I am good at remembering faces.  
L (b) I am good at remembering names.  
I (c) I am just as good at remembering names as I am at remembering faces.

- L 2. (a) I answer best to directions which are told to me or written for me.  
R (b) I answer best to directions when someone gives me an example.  
I (c) I follow directions just as well in both ways.

- R 3. (a) I like to let people know how I feel.  
I (b) I show my feelings only with good friends.  
L (c) I keep my feelings to myself.

- R 4. (a) I like to try things I have not tried before.  
L (b) When I try something new, I always like to think up different ways to do it before I try it.  
I (c) I like to try new things as well as I like trying things that I have seen and thought about.

- L 5. (a) I like teachers who give one homework assignment at a time.  
R (b) I like teachers who ask me to study or work on many things at the same time.  
I (c) I like either kind of teacher.

- L 6. (a) I like tests where the answers are given to me and I am asked to pick the best one.  
R (b) I like tests where I write out the answer myself.  
I (c) I like both kinds of tests just as well.

- R 7. (a) I can tell when a person is happy or not without the person telling me.  
L (b) People have to tell me when they are happy or sad.  
I (c) I can do both just as well.

- R 8. (a) I am good at thinking up funny things to say and do.  
L (b) I am not good at thinking up funny things to say and do.  
I (c) Sometimes I am good at thinking up funny things to do.

- R 9. (a) I like teachers who show me how to do things.  
L (b) I like teachers who tell me how to do things.  
I (c) I like both ways of learning just the same.

- L 10. (a) I like to know everything about a question before I answer it.  
R (b) I answer questions according to the way I feel.  
I (c) I like to answer questions just as well both ways.

- R11. (a) I like to have fun when I try to figure things out.  
L (b) I like to have quiet when I try to figure things out.  
I (c) Sometimes I like to have fun when I figure things out and sometimes I like to have quiet.

- R12. (a) I like to make up my own games when I play.  
L (b) I always like to play by the rules with no changes.  
I (c) I like to do both just as well.

- R13. (a) I am willing most of the time to use anything around to get things done.  
I (b) I am not always willing to use anything around just to get things done.  
L (c) I like to use the right tools for the right job.

- L14. (a) I like teachers who tell me what to learn and how to learn it.  
R (b) I do not like the teachers who tell me what to learn and how to learn it.  
I (c) I like both kinds of teachers just as well.

- R15. (a) I always come up with new ideas or things.  
I (b) Sometimes I come up with new things and ideas.  
L (c) I never come up with new things or ideas.

- R16. (a) I come up with ideas best when I lie flat on my back.  
L (b) I come up with ideas best when I stay in my seat.  
I (c) I come up with ideas best when I walk.

- L17. (a) I like to learn about things I can use right away.  
R (b) I like to learn about things even if I cannot use them right away.  
I (c) I like to learn about things that I can use right away just as well as I like to learn about things that I cannot use right away.

- R18. (a) When I do not know the answer to a question, I like to take a guess at it.  
L (b) When I do not know the answer to a question, I do not like to take a guess at it.  
I (c) Sometimes I like to guess at things when I do not know the answer.

- L19. (a) I like to tell people just how I feel.  
R (b) I like to show people how I feel with a poem, a song, or a dance.  
I (c) Sometimes I like to tell people how I feel and sometimes I like to show people how I feel with a poem, song or a dance.

- R20. (a) Many times I get ideas from reading poems or looking at posters.  
I (b) Once in a while I get ideas from reading poems or looking at posters.  
L (c) I hardly get any ideas from reading poems or looking at posters.

- L21. (a) I like to answer simple questions.  
R (b) I like to try hard questions.  
I (c) I like to answer simple questions just as well as I like to try hard questions.

- ~~R~~ 22. (a) I like to follow people who excite me.  
L (b) I like to follow people who make sense to me.  
I (c) I like to follow people who excite me just as well as I like to follow people who make sense to me.

- L 23. (a) I like to work on one problem at a time.  
R (b) I like to work on many problems at once.  
I (c) I like to work on one problem at a time just as well as I can work on many problems.

- L 24. (a) I like to learn about things that have been proven to be right.  
R (b) I like to learn about what people think might happen someday.  
I (c) I like to learn about things that have taken place as well as about things that might happen someday.

- L 25. (a) I like to make sense out of everything I read.  
R (b) I like to put into use everything I read and learn.  
I (c) I like to make sense out of everything I read as well as put it into use.

- R 26. (a) The way I answer a problem depends on how I feel inside.  
L (b) I answer a problem by carefully picking the best answer.  
I (c) I answer problems both ways.

- R 27. (a) I like to picture the answer to a problem in my head.  
L (b) I do not like to picture the answer to a problem in my head.  
I (c) It does not make any difference to me.

- L 28. (a) I like to answer questions by carefully picking out the best answer.  
R (b) I like to answer questions by guessing.  
I (c) I like to answer questions either way.

- L 29. (a) I can explain myself better by talking.  
R (b) I can explain myself better by moving my hands while I talk.  
I (c) I can explain myself by either talking or by showing with my hands.

- L 30. (a) I learn best when the teacher explains the lesson to me.  
R (b) I learn better when the teacher shows me a picture of what she/he wants me to do.  
I (c) I can learn either way.

- L 31. (a) I remember better when the teacher explains things to me.  
R (b) I remember answers better to problems I picture in my head.  
I (c) I can remember things just as well either way.

- L 32. (a) I like to figure out all the steps in the answer to a problem.  
R (b) I like to write out everything about the answer to a problem.  
I (c) I like to answer problems either way.

- L 33. (a) I like to talk and write about things.  
R (b) I like to draw and make things.  
I (c) I like to do both.

L 34. (a) I get lost easily even in places that I have visited.  
R (b) I can find my way even in strange places.  
I (c) I like to do both.

R 35. (a) I rather do something than explain it.  
L (b) I rather explain something than do it.  
I (c) I do just as well either way.

R 36. (a) I like to be in noisy and crowded places where people do many things at the same time.  
L (b) I like to be in quiet places where I am able to think carefully.  
I (c) I do just as well in both places.

R 37. (a) I like best to draw and listen to music.  
L (b) I like to do things with other people.  
I (c) I like to draw and listen to music as well as work with other people.

L 38. (a) When I grow up, I would like to be a business man or a scientist.  
R (b) When I grow up, I would like to be a teacher or a minister.  
I (c) I really do not care what I will be when I grow up.

L 39. (a) I learn only what I read and what people tell me.  
R (b) I learn lots of things that people don't teach me.  
I (c) Sometimes I like to learn everything about things and sometimes I like to learn only the important parts.

R 40. (a) I like to use the things I hear and read.  
L (b) I like to think about the things I hear and read before I use them.  
I (c) I can go both ways.



# Are You Right-Brained or Left-Brained?

**D**id you know that your brain is made up of two halves? The *left* side of your brain controls the *right* side of your body, and the *right* side of your brain controls the *left* side of your body. The two halves are connected by a system of fibers called the *corpus callosum*.

In 1940, some doctors cut the corpus callosum of patients with epilepsy. They wanted to see if this would “trap” the patients’ seizures on one side of the brain so the other side could function normally. It seemed to work.

In 1960, a scientist named Roger Sperry studied patients who had been through this operation. He noticed some interesting things about them. His “split-brained” patients could hold an object in their right hand and name it. But when they held an object in their left hand, they could describe it, but they couldn’t name it! Sperry also found that these patients could write with their right hands but not draw. They could draw with their left hands but not write.

Sperry’s studies seemed to show that each half of the brain has different characteristics and abilities. The left half is logical, analytical, and used for verbal tasks. The right half sees things “whole” instead of in parts, and is used for creative thinking.

Now people talk about being “left-brained” (logical) or “right-brained” (creative). But brain science is really much more complicated than that. The latest thinking and research puts the focus on being “whole-brained.” Still, thinking about how our brains function can tell us more about our personal style.



Read each question, then circle a or b for the answer that you would most likely choose.

1. Which is more true of you?
  - a. I am tense about getting things right
  - b. I am relaxed and let things happen
2. Do you often feel sad or down in the dumps?
  - a. no
  - b. yes
3. Which do you enjoy more about music?
  - a. the beat
  - b. the melody
4. Which way of learning do you like best?
  - a. books and lectures
  - b. workshops and field trips
5. Which of these two subjects do you like more?
  - a. math
  - b. art
6. Which of these two games do you prefer?
  - a. Scrabble
  - b. checkers
7. How do you usually buy something?
  - a. I think about its value and how I will use it
  - b. I just buy it
8. When you buy something, do you make sure to get the correct change back?
  - a. yes, I count it
  - b. no
9. How do you figure things out?
  - a. a piece at a time, then put it all together
  - b. the answer comes to me all at once, like a light going on
10. Which of these two types of puzzles do you prefer?
  - a. crossword puzzles
  - b. jigsaw puzzles
11. How often do you have a hunch?
  - a. never or almost never
  - b. often
12. Which would you rather do?
  - a. read
  - b. watch TV
13. How are you at putting your feelings into words?
  - a. very good
  - b. it is hard for me
14. If you practice an instrument or a sport, how do you do it?
  - a. the same time each day, for a certain amount of time
  - b. when I feel like it and have the time
15. You're riding your bike to a friend's house. You've never been there before. Which method do you use to find your way?
  - a. I ask for directions, then write down street names and landmarks
  - b. I ask for the address, then look at a map
16. Which of these types of fabrics do you prefer?
  - a. fabrics without much texture (cotton, denim)
  - b. fabrics with lots of texture (corduroy, suede, velvet)
17. Are you good at remembering faces?
  - a. no
  - b. yes
18. Are you good at remembering names?
  - a. yes
  - b. no
19. How do you feel about psychic claims—that there is such a thing as ESP, for example?
  - a. they are foolish and nonscientific
  - b. science can't explain everything; they are worth looking into
20. Are you a better athlete than you are a student?
  - a. no
  - b. yes

## What's Your STYLE?

Total your a's and b's. a's are left-brained responses; b's are right-brained responses.

a's  b's

- 17 or more a's or b's mean you have a strong preference for that side of your brain.
- 15 a's or b's mean you have some preference for that side of your brain.
- 10 or 11 of each mean you use both sides of your brain equally.

If you're right-brained, does that mean you're never logical? If you're left-brained, does that mean you're never creative? Of course not. All it means is that you tend to favor one side over the other. It's just part of your personal style.

## Find Out MORE

- Test your family members and friends. Are they left-brained or right-brained?
- Which hand do you normally use for writing? Stick that hand in your pocket and keep it there for 15 minutes or so. Meanwhile, try doing simple tasks with your other hand—changing TV channels, dialing the phone, opening a door, zipping a zipper. Is this easy or hard for you to do?

## Which Side Is In Control?

Which side of your brain controls most of your activities? Find out with this simple exercise. Remember that the left side of your brain controls the right side of your body, and the right side of your brain controls the left side of your body.

1. Clasp your hands together.  
Which thumb is on top? \_\_\_\_\_
2. Fold your arms. Which arm is on top? \_\_\_\_\_
3. Cross your legs. Which leg is on top? \_\_\_\_\_
4. Look through a paper tube.  
Which eye do you use? \_\_\_\_\_
5. Kick a ball. Which foot do you use? \_\_\_\_\_

Which side of your brain is in control? \_\_\_\_\_

"You are old, Father William," the young man said,  
"And your hair has become very white;  
And yet you incessantly stand on your head —  
Do you think, at your age, it is right?"  
"In my youth," Father William replied to his son,  
"I feared it might injure the brain;  
But now that I'm perfectly sure I have none,  
Why, I do it again and again."

—*Lewis Carroll*, *Alice's Adventures in Wonderland*



## Theories

- About Learning
  - Constructivism
  - Behaviorism
  - Piaget
  - Neuroscience
  - Brain-Based Learning
  - Learning Styles
  - Multiple Intelligences
  - ▶ Right Brain/Left Brain
  - Communities of Practice
  - Control Theory
  - Observational Learning
  - Vygotsky and Social Cog.
- Curriculum
- Instruction
- Assessment
- Organizational Theory

## Influences

- Education History

- Patterns

- Emotional Intelligence

- Benefits

- Education Reform

## Right Brain vs. Left Brain

### Definition

This theory of the structure and functions of the mind suggests that the two different sides of the brain control two different "modes" of thinking. It also suggests that each of us prefers one mode over the other.

### Discussion

Experimentation has shown that the two different sides, or hemispheres, of the brain are responsible for different manners of thinking. The following table illustrates the differences between left-brain and right-brain thinking:

Left Brain	Right Brain
Logical	Random
Sequential	Intuitive
Rational	Holistic
Analytical	Synthesizing
Objective	Subjective
Looks at parts	Looks at wholes

Most individuals have a distinct preference for one of these styles of thinking. Some, however, are more whole-brained and equally adept at both modes. In general, schools tend to favor left-brain modes of thinking, while downplaying the right-brain ones. Left-brain scholastic subjects focus on logical thinking, analysis, and accuracy. Right-brained subjects, on the other hand, focus on aesthetics, feeling, and creativity.

### How Right-Brain vs. Left-Brain Thinking Impacts Learning

*Curriculum*--In order to be more "whole-brained" in their orientation, schools need to give equal weight to the arts, creativity, and the skills of imagination

and synthesis.

*Instruction*--To foster a more whole-brained scholastic experience, teachers should use instruction techniques that connect with both sides of the brain. They can increase their classroom's right-brain learning activities by incorporating more patterning, metaphors, analogies, role playing, visuals, and movement into their reading, calculation, and analytical activities.

*Assessment*--For a more accurate whole-brained evaluation of student learning, educators must develop new forms of assessment that honor right-brained talents and skills.

### **Reading**

Bernice McCarthy, *The 4-MAT System: Teaching to Learning Styles with Right/Left Mode Techniques*.

The content on this page was written by On Purpose Associates.



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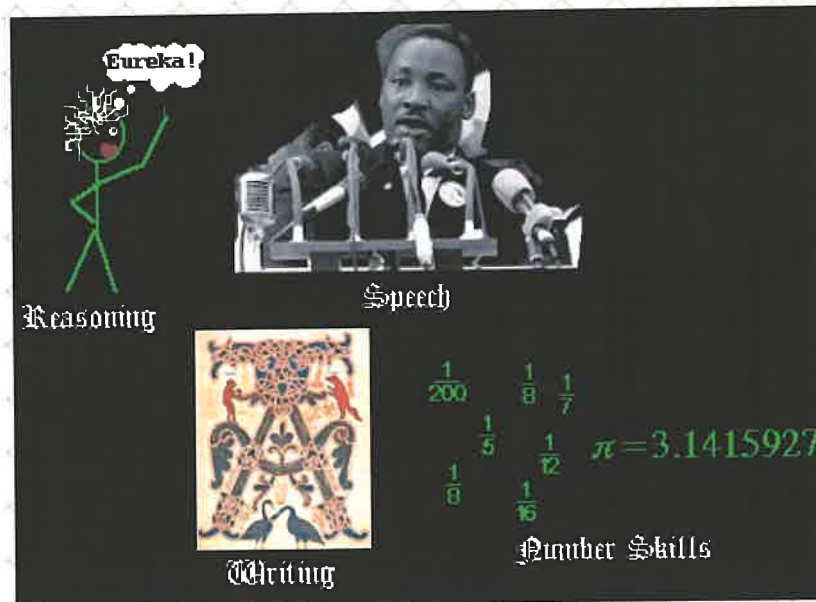
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## The Left Side



When a person develops a dominance toward one side of their brain, they tend to have certain [characteristics](#) and areas of interest in common. The left side of the brain is often thought of as the logical, thinking side. Also, people of left brain dominance tend to choose similar [occupations](#).

Above are just some things associated with the left cerebral hemisphere of the brain. People who are left brain dominant are usually good with these things. Below is a list of things that left brained people are good at or they like and things that are done in the left brain.

- Prefer Classical Music
- Your Left-Brain controls the right side of your body
- Prefer things like instructions to be done verbally
- Good at math
- Like to read



- Follow Western Thought\*
- Very Logical
- Dog lovers
- Don't enjoy clowning around
- Can't be hypnotized
- Usually remember things only specifically studied
- Need total quiet to read or study
- Like to read realistic stories
- Like to write non-fiction
- Prefer individual counseling
- Enjoy copying or tracing pictures and filling in details
- Also like to read action stories
- Usually rational
- Usually do things in a planned orderly way
- If you have to answer someone's question, you won't let your personal feelings get in the way
- Good at algebra
- Can remember verbal material
- Almost never absent minded
- Like to tell stories but not act them out
- Can think better sitting down
- Like to be a music critic
- Attentive during long verbal explanations
- Prefer well structured assignments over open ended ones
- Read for specific details and facts
- Skilled at sequencing ideas
- Likes to be Organized

\*Eastern and Western thought: A doctor in an a country like China would first ask a person how they are doing and what else is going on in their life before they give them medicine. A doctor in North America would just ask them what their symptoms were and then give them medicine.

Here are some occupations that are USUALLY fulfilled by a left-brained person. (There are always exceptions)

- Lab scientist
- Banker
- Judge
- Lawyer
- Mathematician
- Bacteriologist
- Librarian
- Skating judge, skiing judge, etc.,

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## The Right Side



Music Awareness



3-d Forms



Art Awareness

CREATIVITY

Imagination

When a person is Right Brain Dominant, they are thought of as the dreamers, the artists, and the musicians of the world. Just because they are not as good with numbers and remembering facts does not mean that they are "dumber" than a left brain person. They just have their strength in different areas. They do have similar [characteristics](#) and they tend to hold similar [occupations](#).

Above are just a few things associated with the right cerebral hemisphere of the brain. People who are right brain dominant are usually good with these things. Here is some more characteristics of a right-brained person.

- Prefer rock music

- Right brain controls left side of body
- Prefer visual instructions with examples
- Good at sports
- Good at art
- Follow Eastern thought\*
- Cat lovers
- Enjoy clowning around
- Can be hypnotized
- Like to read fantasy and mystery stories
- Can listen to music or TV while studying
- Like to write fiction
- Prefer group
- Fun to dream about things that will probably never happen
- Enjoy making up own drawings and images
- Good at geometry
- Like organizing things to show relation
- Can memorize music
- Occasionally absentminded
- Like to act out stories
- Enjoy interacting affectively with others
- Think better when lying down
- Become restless during long verbal explanations
- Enjoy creative storytelling
- Prefer to learn through free exploration
- Good at recalling spatial imagery
- Read for main details
- Skilled in showing relationships between ideas
- Preference for summarizing over outlining
- Solve problems intuitively
- Very Spontaneous and unpredictable
- Dreamer
- philosophical

\*Eastern and Western thought: A doctor in an a country like China would first ask a person how they are doing and what else is going on in their life before they give them medicine. A doctor in North America would just ask them what their symptoms were and then give them medicine.

Below is a list of occupations held by USUALLY held by a right-brained person. (There are always exceptions.)

- Forest ranger
- Wildlife manager
- Beautician
- Politician
- Athlete
- Artist
- Craftsman
- Actor/Actress

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**Directions:** This is a **printable** test to take yourself and give to your friends. Print out this page first. Get a blank sheet of lined paper. Every time you read a description or characteristic that applies to you, write down its number on the blank sheet of paper. There is no certain number of characteristics you must choose. After you are done, click [here](#) to view the key. Next to every number on your paper, write whether it was a L or an R. Count up the number of L's and R's. Whichever number is higher represents your dominance. If the numbers are close, that means you use both sides of your brain equally.

1. I constantly look at a clock or wear a watch
2. I keep a journal or diary of my thoughts
3. I believe there is a either right and wrong way to do everything
4. I find it hard to follow directions precisely
5. The expression "Life is just a bowl of cherries" makes no sense to me
6. I frequently change my plans and find that sticking to a schedule is boring
7. I think it's easier to draw a map than tell someone how to get somewhere
8. To find a lost item, I try to picture it in my head where I last saw it
9. I frequently let my emotions guide me
10. I learn math with ease
11. I'd read the directions before assembling something
12. People tell me I am always late getting places
13. People have told me that I'm psychic
14. I need to set goals for myself to keep me on track
15. When somebody asks me a question, I turn my head to the left
16. If I have a tough decision to make, I write down the pros and the cons
17. I'd probably make a good detective
18. I learn music with ease
19. To solve a problem, I think of similar problems I have solved in the past
20. I use a lot of gestures
21. If someone asks me a question, I turn my head to the right
22. I believe there are two ways to look at almost everything
23. I have the ability to tell if people are lying or guilty of something, just by looking at them
24. I keep a "to do" list
25. I am able to thoroughly explain my opinions in words
26. In a debate, I am objective and look at the facts before forming an opinion
27. I've considered becoming a poet, a politician, an architect, or a dancer
28. I always lose track of time
29. When trying to remember a name I forgot, I'd recite the alphabet until I remembered it
30. I like to draw
31. When I'm confused, I usually go with my gut instinct
32. I have considered becoming a lawyer, journalist, or doctor

**Print this test out and give it to your friends. Don't forget to print out the [key](#), so you can add up the number of R's and L's.**

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1. L
2. L
3. L
4. R
5. L
6. R
7. R
8. L
9. R
10. L
11. L
12. R
13. R
14. L
15. R
16. L
17. L
18. R
19. R
20. R
21. L
22. R
23. R
24. L
25. L
26. L
27. R
28. R
29. L
30. R
31. R
32. L

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# MULTIPLE INTELLIGENCE INVENTORY

Circle the number of any of the indicators that best describe you.

1. I have a good vocabulary for my age.
2. I ask a lot of questions about how things work.
3. I have strong personal opinions and beliefs.
4. I like to participate in physical activities or sports.
5. I enjoy socializing with my peers.
6. I can easily compute numbers in my head.
7. I remember melodies of songs.
8. I enjoy art activities.
9. I keep my notebooks, locker, bedroom closet, drawers, etc. organized.
10. I am satisfied when left alone to study or play.
11. I like to listen to music while studying or working.
12. I enjoy word games.
13. I enjoy belonging to clubs, committees, or other organizations.
14. I often see clear visual images when I close my eyes.
15. I understand patterns, categories and relationships.
16. I learn best by "doing", moving, touching, or acting.
17. I am a good speller.
18. I like to be the leader.
19. I am independent and self-directed.
20. I have a good singing voice.
21. I read maps, charts, and diagrams more easily than text.
22. I enjoy playing chess, checkers, or other strategy games.
23. I love to take things apart and put them back together again.
24. I enjoy pursuing interests and hobbies alone.
25. I unconsciously hum to myself.
26. I enjoy jigsaw puzzles and mazes.
27. I like to play group games such as Monopoly over individual activities such as solitaire.
28. I am good at telling stories or jokes.
29. I enjoy movement and dance.

30. I have a good memory for names, places, dates, or trivia.
31. I excel in one or more sports.
32. I have good judgment in social situations.
33. I like to read books and magazines related to science, such as Discover magazine.
34. I am self-confident and have high self-esteem.
35. I can study better when listening to music.
36. I am able to draw realistic pictures of people and objects.
37. I have a dramatic way of expressing myself.
38. I have a good sense of direction; I rarely get lost.
39. I am good at making speeches and presentations before groups.
40. I like to collect and organize things such as stamps, coins, baseball cards, etc.
41. I can tell you when music sounds off-key or disturbing in some other way.
42. I think on a more abstract or conceptual level than my peers.
43. I have a good sense of empathy or concern for others.
44. I am concerned about self-improvement and health.
45. I use music for self expression.
46. My friends seek me out for advice or to listen to when they have problems.
47. I prefer working alone to working with others.
48. I enjoy working on logic puzzles or brain teasers.
49. I show skill in a craft (e.g., woodworking, sewing, mechanics) or good fine-motor coordination in other ways.
50. I enjoy reading, writing, and listening.
51. I like to exercise and workout.
52. I enjoy math class.
53. I doodle on worksheets, workbooks, or other materials.
54. I get involved with helping people.
55. I appreciate different kinds of music.
56. I can mimic other people's gestures or mannerisms.

Adapted from Multiple Intelligences in the Classroom, Thomas Armstrong, 1994.

Revving the Engine, Long, Austin, & Bowen, 1994.

## **M. I. INVENTORY KEY**

### **LINGUISTIC**

**1, 12, 17, 28, 30, 39, 50**

### **LOGICAL/MATHEMATICAL**

**2, 6, 9, 15, 22, 33, 40, 42, 48, 52**

### **SPATIAL**

**8, 14, 21, 26, 36, 38, 53**

### **BODILY/KINESTHETIC**

**4, 16, 23, 29, 31, 37, 49, 51, 56**

### **MUSICAL**

**7, 11, 20, 25, 35, 41, 45, 55**

### **INTERPERSONAL**

**5, 13, 18, 27, 32, 43, 46, 54**

### **INTRAPERSONAL**

**3, 10, 19, 24, 34, 44, 47**

Multiple Intelligences (M.I.) Inventory

© 1999 Walter McKenzie (<http://surfaquarium.com/MI/index.htm>)

**PART I**

Complete each section by placing a "1" next to **each** statement you feel accurately describes you. If you do not identify with a statement, leave the space provided blank. Then total the column in each section.

**Section 1**

- ☐ I enjoy categorizing things by common traits
- ☐ Ecological (environmental) issues are important to me
- ☐ Hiking and camping are enjoyable activities
- ☐ I enjoy working on a garden
- ☐ I believe preserving (saving/keeping) our National Parks is important
- ☐ Putting things in hierarchies (system of levels) makes sense to me
- ☐ Animals are important in my life
- ☐ My home has a recycling system in place
- ☐ I enjoy studying biology, botany and/or zoology
- ☐ I spend a great deal of time outdoors

Total number of 1's  
used in Section 1:

**Section 2**

- ☐ I easily pick up on patterns
- ☐ I focus in on noise and sounds
- ☐ Moving to a beat is easy for me
- ☐ I've always been interested in playing an instrument
- ☐ The cadence (rhythm/speed) of poetry intrigues me
- ☐ I remember things by putting them in a rhyme
- ☐ Concentration is difficult while listening to a radio or television
- ☐ I enjoy many kinds of music
- ☐ Musicals are more interesting than dramatic plays
- ☐ Remembering song lyrics is easy for me

Total number of 1's  
used in Section 2:

**Section 3**

- ☐ I keep my things neat and orderly
- ☐ Step-by-step directions are a big help
- ☐ Solving problems comes easily to me
- ☐ I get easily frustrated with disorganized people
- ☐ I can complete calculations quickly in my head
- ☐ Puzzles requiring reasoning are fun
- ☐ I can't begin an assignment until all my questions are answered
- ☐ Structure helps me be successful
- ☐ I find working on a computer spreadsheet or database rewarding
- ☐ Things have to make sense to me or I am dissatisfied

Total number of 1's  
used in Section 3:

**Section 4**

- ☐ It is important to see my role in the "big picture" of things
- ☐ I enjoy discussing questions about life
- ☐ Religion is important to me
- ☐ I enjoy viewing art masterpieces
- ☐ Relaxation and meditation exercises are rewarding
- ☐ I like visiting breathtaking sites in nature
- ☐ I enjoy reading ancient and modern philosophers
- ☐ Learning new things is easier when I understand their value
- ☐ I wonder if there are other forms of intelligent life in the universe
- ☐ Studying history and ancient culture helps give me perspective

Total number of 1's  
used in Section 4:

### Section 5

- ☐ I learn best interacting with others
- ☐ "The more the merrier"
- ☐ Study groups are very productive for me
- ☐ I enjoy chat rooms
- ☐ Participating in politics is important
- ☐ Television and radio talk shows are enjoyable
- ☐ I am a "team player"
- ☐ I dislike working alone
- ☐ Clubs and extracurricular activities are fun
- ☐ I pay attention to social issues and causes

Total number of 1's  
used in Section 5:

### Section 6

- ☐ I enjoy making things with my hands
- ☐ Sitting still for long periods of time is difficult for me
- ☐ I enjoy outdoor games and sports
- ☐ I value non-verbal communication such as sign language
- ☐ A fit body is important for a fit mind
- ☐ Arts and crafts are enjoyable pastimes
- ☐ Expression through dance is beautiful
- ☐ I like working with tools
- ☐ I live an active lifestyle
- ☐ I learn by doing

Total number of 1's  
used in Section 6:

### Section 7

- ☐ I enjoy reading all kinds of materials
- ☐ Taking notes helps me remember and understand
- ☐ I faithfully (routinely/always) contact friends through letters and/or e-mail
- ☐ It is easy for me to explain my ideas to others
- ☐ I keep a journal
- ☐ Word puzzles like crosswords and jumbles are fun
- ☐ I write for pleasure
- ☐ I enjoy playing with words like puns, anagrams and spoonerisms
- ☐ Foreign languages interest me
- ☐ Debates and public speaking are activities I like to participate in

Total number of 1's  
used in Section 7:

### Section 8

- ☐ I am keenly aware of my moral beliefs
- ☐ I learn best when I have an emotional attachment to the subject
- ☐ Fairness is important to me
- ☐ My attitude affects how I learn
- ☐ Social justice issues concern me
- ☐ Working alone can be just as productive as working in a group
- ☐ I need to know why I should do something before I agree to do it
- ☐ When I believe in something I will give 100% effort to it
- ☐ I like to be involved in causes that help others
- ☐ I am willing to protest or sign a petition to right a wrong

Total number of 1's  
used in Section 8:

### Section 9

- ☐ I can imagine ideas in my mind
- ☐ Rearranging a room is fun for me
- ☐ I enjoy creating art using varied media
- ☐ I remember well using graphic organizers
- ☐ Performance art can be very gratifying
- ☐ Spreadsheets are great for making charts, graphs and tables
- ☐ Three-dimensional puzzles bring me much enjoyment
- ☐ Music videos are very stimulating
- ☐ I can recall things in mental pictures
- ☐ I am good at reading maps, atlases and blueprints

Total number of 1's  
used in Section 9:



## Part II

Now carry forward your total from each section and multiply by 10 below:

Section	# of 1's	Multiply	Multiplied Score
1		x 10	
2		x 10	
3		x 10	
4		x 10	
5		x 10	
6		x 10	
7		x 10	
8		x 10	
9		x 10	

## Part III

Now plot your scores on the **bar graph** provided... colour in the blocks up to the multiplied score.

100									
90									
80									
70									
60									
50									
40									
30									
20									
10									
0	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9
Type of STRENGTH	Naturalistic	Musical	Logical	Existential	Interpersonal	Kinesthetic	Verbal	Intrapersonal	Visual

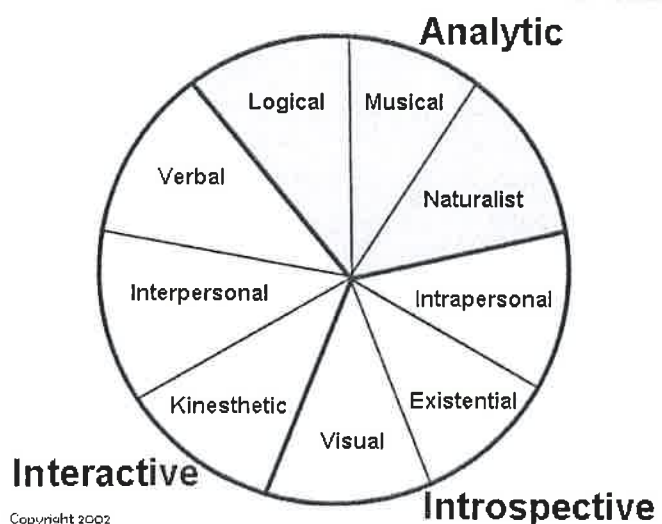
### Look at the 9 sections above

What are your top 3 types of learning styles?

Bottom 3 types of learning styles?

Do you see a pattern in the group (analytic, interactive, introspective) that they fit into?

What do you think your learning style tells you about the career you might get into?



## **ANALYTICAL**

*These three intelligences as analytic because even though they can have a social or introspective component to them, they most fundamentally promote the process of analyzing and incorporating data into existing situations. The analytical intelligences are by nature heuristic (speculative formulation) processes.*

### **Logical (Mathematical)**

Children who display an aptitude for numbers, reasoning and problem solving. This is the other half of the children who typically do well in traditional classrooms where teaching is logically sequenced and students are asked to conform.

### **Musical (Rhythmic)**

Children who learn well through songs, patterns, rhythms, instruments and musical expression. It is easy to overlook children with this intelligence in traditional education.

### **Naturalist**

Children who love the outdoors, animals, field trips. More than this, though, these students love to pick up on subtle differences in meanings. The traditional classroom has not been accommodating to these children.

## **INTROSPECTIVE**

*These three intelligences as introspective because they require a looking inward by the learner, an emotive connection to their own experiences and beliefs in order to make sense of new learning. The introspective intelligences are by nature affective processes.*

### **Intrapersonal**

Children who are especially in touch with their own feelings, values and ideas. They may tend to be more reserved, but they are actually quite intuitive about what they learn and how it relates to themselves.

### **Existentialist**

Children who learn in the context of where humankind stands in the "big picture" of existence. They ask "Why are we here?" and "What is our role in the world?" This intelligence is seen in the discipline of philosophy.

### **Visual (Spatial)**

Children who learn best visually and organizing things spatially. They like to see what you are talking about in order to understand. They enjoy charts, graphs, maps, tables, illustrations, art, puzzles, and costumes - anything eye catching.

## **INTERACTIVE**

*These three intelligences as interactive because even though they can be stimulated through passive activity they typically invite and encourage interaction to achieve understanding. Even if a student completes a task individually, s/he must consider others through the way s/he writes, creates, constructs and makes conclusions. The interactive intelligences are by nature social processes.*

### **Verbal (Linguistic... to do with words)**

Children who demonstrate strength in the language arts: speaking, writing, reading, listening. These students have always been successful in traditional classrooms because their intelligence lends itself to traditional teaching.

### **Kinesthetic (Bodily)**

Children who experience learning best through activity: games, movement, hands-on tasks, building. These children were often labeled "overly active" in traditional classrooms where they were told to sit and be still!

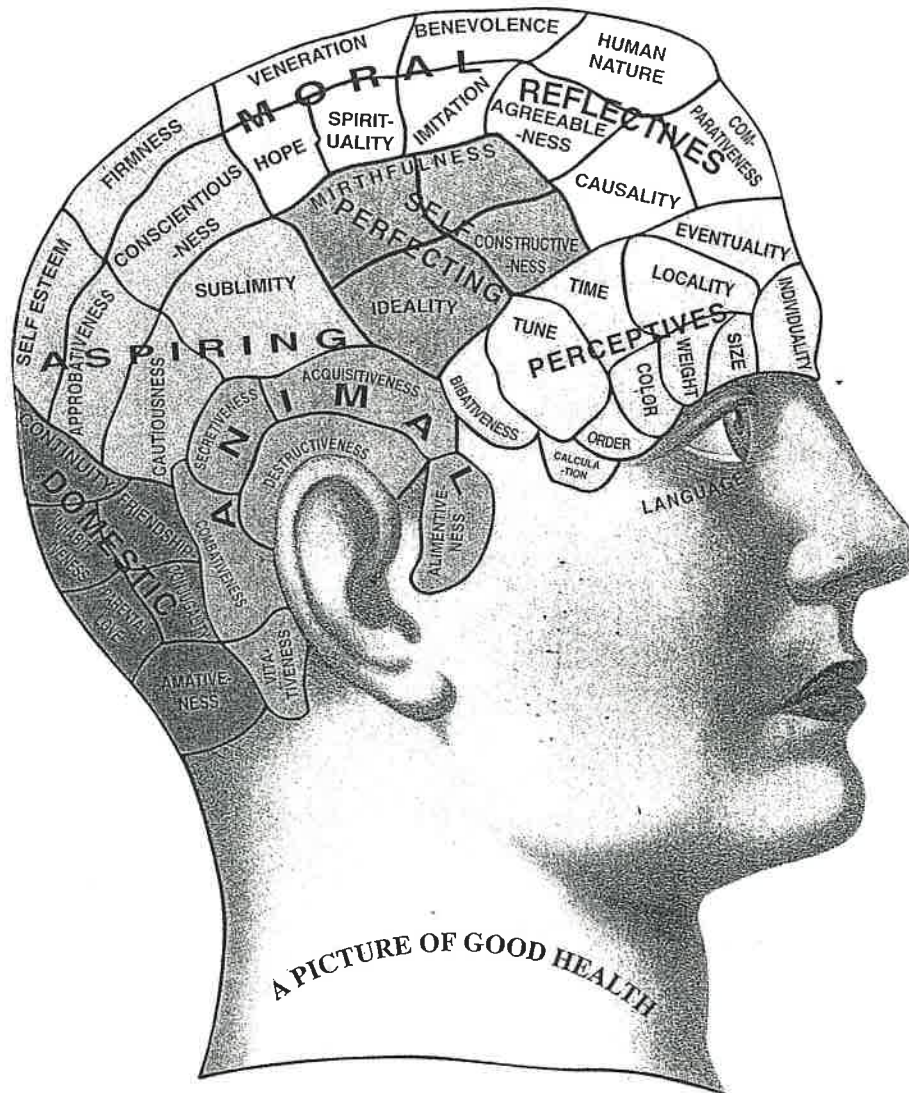
### **Interpersonal**

Children who are noticeably people oriented and outgoing, and do their learning cooperatively in groups or with a partner. These children may have typically been identified as "talkative" or "too concerned about being social" in a traditional setting.

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Remember:

- Everyone has all the intelligences!
- You can strengthen intelligence!
- This inventory is meant as a snapshot in time – it can change!
- M.I. is meant to empower, not label people!



## INDEX.

# PHRENOLOGY

**REMARKS:** Phrenology is a science which deals with mental phenomena and reveals character like an open book. It classifies the mind into "faculties," which are located and designated as in diagram. These faculties are not manifested by "bumps on the head," as many appear to understand, but by cranial contour and development as a whole. Measurements are taken from the opening of the ear upward, forward, backward and diametrically; also around the crown of the head. Size generally indicates power; but quality, temperament, and inherited constitution are dominating factors. A correct Phrenological Chart shows a person's disposition, tastes, temper, sentiments, domestic attachments, religious and moral tendency, judgment, talent for business, literature, etc., and is in short a mirror of the mind.

Acquisitiveness	Love for Accumulation of Riches of Prosperity.
Agreeableness	Ability to Win Others' Confidence.
Amativeness	Appetite for Food and Drink.
Alternativeness	Sexual and Social Impulses.
Approbativeness	Regard for Popular Sentiment.
Benevolence	Sympathy for Humanity.
Bibativeness	Capable of Combining.
Calculation	Ability to Calculate correctly.
Casuality	Ability to Reason a Proposition.
Cautiousness	Indisposition to Take Risks.
Color	Ability to Determine Color correctly.
Combativeness	Love for Encounter, Debate or Dispute.
Comparison	Ability to Analyze and Illustrate.
Conjugalitv	Love of Companionship.
Conscientiousness	Recognition of Duty and Principle.
Constructiveness	Inventive Skill.
Continuity	Love for Society.
Destructiveness	Attitude towards Punishment or Revenge.
Eventuality	Love for Information and Experiment.
Firmness	Tenacity and Perseverance.
Friendship	An Attachment to an Intimate Acquaintance.
Hope	Disposition to Minimize Trouble.
Human Nature	Ability to Read Character by Conversation with persons.
Ideality	Imagination, Love of Poetry.
Immortality	Ability to Live by Dying.
Individuality	Whether Close Observer or not.
Inhabitiveness	Love of Home.
Language	Ability to Acquire Language.
Locality	Memory of Places and Circumstances
Mirthfulness	Regard for Wit, Ridicule and Repartee.
Order	Disposition to have Everything in Its Place.
Parental Love	Attachment for Children.
Secretiveness	Disposition towards Cunning, Secrecy, etc.
Self Esteem	Regard for Individual Character.
Size	Accuracy in Guessing Proportions.
Spirituality	Faith in the Supernatural.
Sublimity	Love of Travel, Vivid Emotions.
Time	Ability to Remember Occurrences.
Tune	Ability to Acquire Music.
Veneration	Religious Fervor.
Vitateness	Love of Life.
Weight	Ability to Judge Weight.



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# TIME OUT



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## Can Phrenology Help You Get A-Head?

Phrenology (fri-NÄL-uh-jee) is the study of the shape of the skull, especially the bumps. It was started by Fran Joseph Gall and Johann Kaspar, two 19th-century researchers. They believed that phrenology was a way to learn about people's personalities and mental abilities.

Soon phrenology became so popular that even respected scientists thought it was the wave of the future. In 1899, British biologist Alfred Russel Wallace predicted, "[Phrenology] will prove to be the true science of the mind. Its practical uses in education, in self-disciplining, in reformatory treatment of criminals, and in the remedial treatment of the insane, will give it one of the highest places in the hierarchy of the sciences."

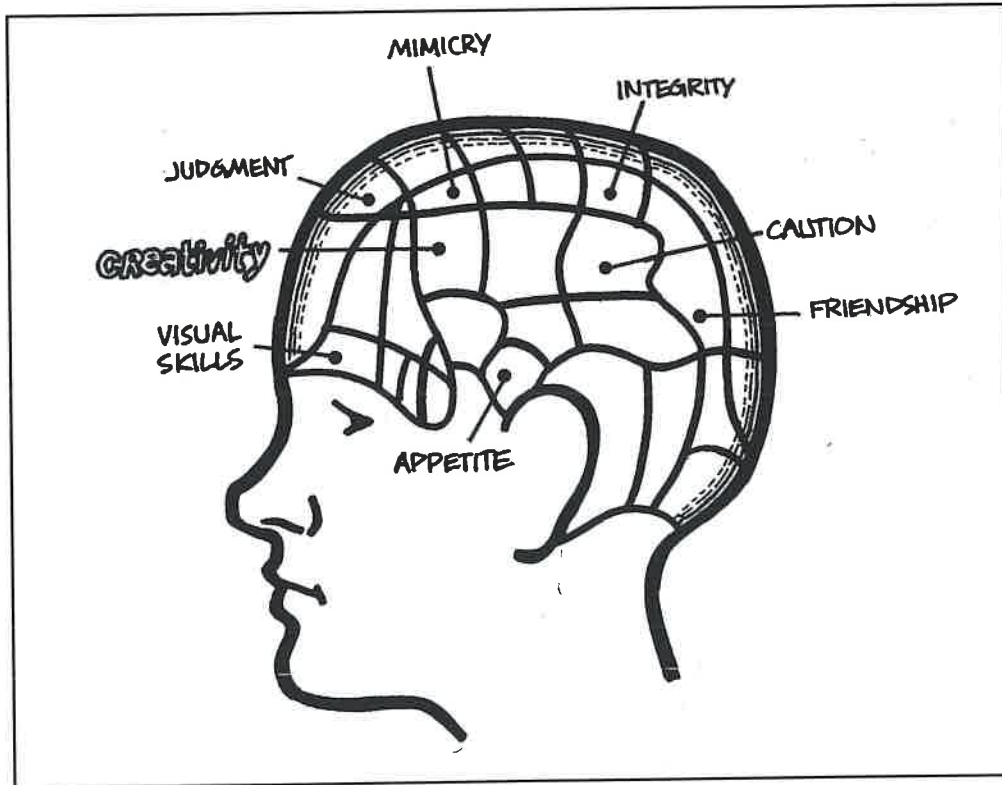
That's not how things worked out. Today, hardly anybody believes in phrenology anymore. But it's still fun to learn about. And it's possible that phrenology helped to pave the way for real personality testing—much like astrology led to astronomy, and alchemy to chemistry.

Phrenology got people thinking about studying the human mind. This resulted in some interesting ideas. For example:

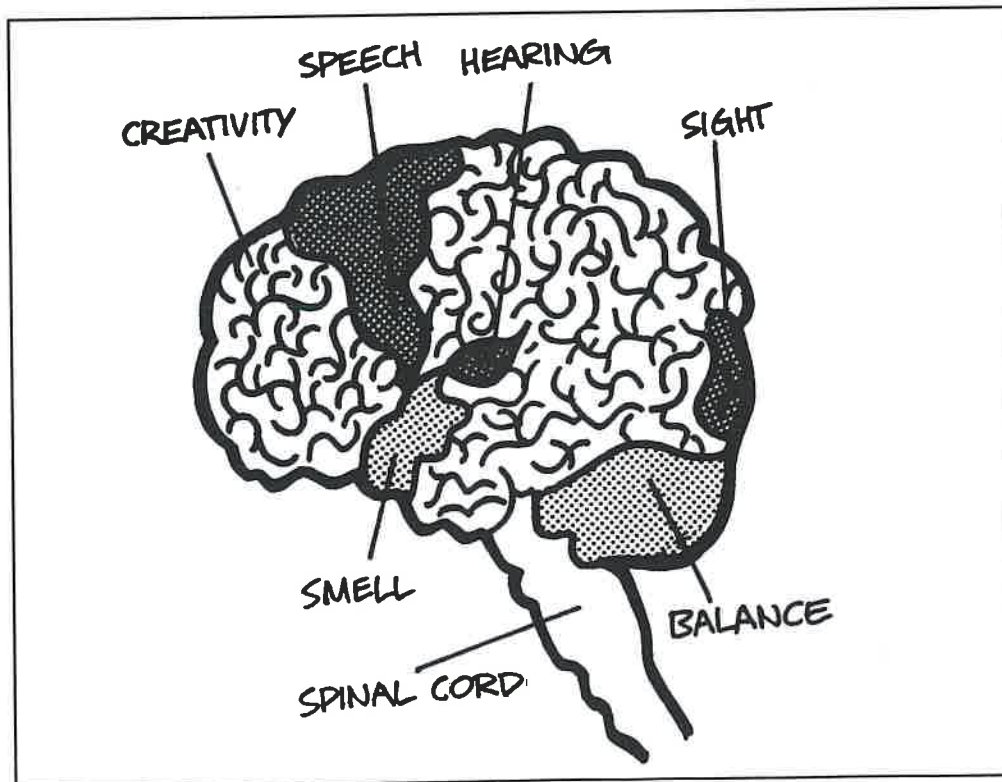
- The mind, like a muscle, needs exercise.
- Children learn better by doing than by studying.
- Schools should allow more free play.
- Shorter school days are better for learning.
- Physical education is important to learning.
- Punishment shouldn't be used in schools.
- Repetition drills don't help people learn.

Scientists today know much more about the brain than Gall and Kaspar did. (Although there's still a lot to learn!) Studying skulls and bumps seems like a silly thing to do.

Or is it? Take a look at the two maps on the next page. One is an old-fashioned phrenologist's brain map. The other is a modern-day neurologist's brain map. (A neurologist is a scientist who studies the brain and nervous system.) Do the maps have anything in common?



Phrenologist's map



Neurologist's map



# Boost Your Mind Power



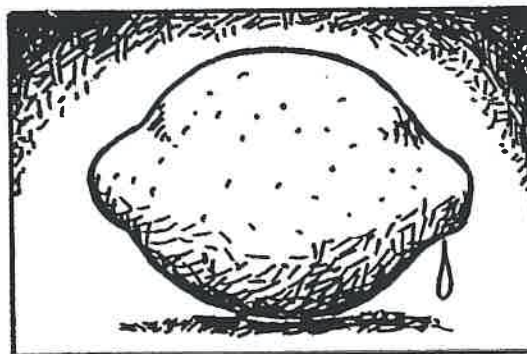
**I**deas and thoughts have power, even over your physical body. Your beliefs can limit your horizons or expand them. When people finally started believing that the world was round, they began sailing all over the globe!

**PART I:** Do the stretch illustrated in this picture. Stretch as far as you can.



Now close your eyes, relax, and imagine yourself stretching even farther. Concentrate on really “seeing” this image. Then try the stretch again.

**PART II:** Close your eyes and make a mental picture of a fresh, juicy lemon. When you have a vivid picture in your mind, imagine taking a bite out of the lemon.



## Find Out MORE

- Practice building your Mind Power to help you achieve a personal goal. Imagine yourself giving a speech in front of your class...running faster or jumping higher...writing a poem...making friends with someone you've admired from a distance...or anything else you choose.

### Mind Over Matter: The Power of Believing in Yourself

- For thousands of years, people believed that it was physically impossible for a human being to run a mile in four minutes. But on May 6, 1954, Roger Bannister broke the four-minute-mile barrier. Within the next year, 37 more runners followed in his footsteps, and 300 more the year after that. Now runners do it all the time.
- When an Australian basketball team wanted to be able to shoot more baskets, the team divided into three groups.

*Group 1* practiced taking foul shots for 30 minutes every day. After 20 days, they noticed a 24 percent improvement.

*Group 2* did nothing. They noticed a 0 percent improvement.

*Group 3* practiced mentally. They didn't actually shoot baskets; they imagined themselves shooting baskets. (Just like you imagined yourself stretching even farther.) They noticed a 23 percent improvement—almost as much as the group that practiced for 30 minutes every day.

- The 1976 Russian Olympic Team trained in this way:

*Group A:* 100% physical training,  
0% mental training

*Group B:* 75% physical training,  
25% mental training

*Group C:* 50% physical training,  
50% mental training

*Group D:* 25% physical training,  
75% mental training

**Group D showed the most improvement.**

- Other athletes who have used mental imagery for success include skier (and gold medalist) Jean-Claude Killy, tennis stars Billie Jean King and Virginia Wade, and champion boxer Muhammad Ali.

"As long as you can envision the fact that you can do something, you can do it—as long as you really believe it 100 percent."

—Arnold Schwarzenegger, five times Mr. Universe,  
actor, chairman of the President's Council on  
Physical Fitness and Sports