

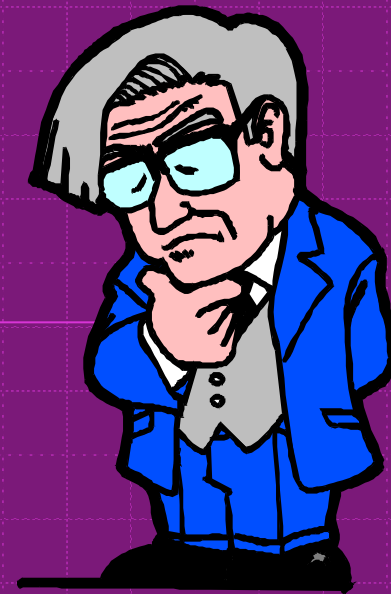


# The Miracle of Learning

How Does it Happen?

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ADVANCED GLOBAL EDUCATORS



# Objectives

- ◆ To understand the dynamics of learning and the mechanics of the mind in processing information



- ◆ To study the ways of thinking, learning styles and memory mechanics

# Fearfully & Wonderfully Made

- ▶ Learning is focused in the brain
- ▶ No two individuals process alike
- ▶ Brain function differs with:
  - ▶ Gender
  - ▶ Age
  - ▶ Ethnic uniqueness
  - ▶ Environment
  - ▶ Chemical stimulation
  - ▶ Culture





# Fearfully & Wonderfully Made

- ▶ All persons are created with diverse abilities yet equal value
- ▶ Students with superior ability to grasp knowledge are considered gifted
- ▶ Every individual receives unique and diverse talents and skills that must be developed through
  - ▶ Education
  - ▶ Training
  - ▶ Exercise



# Fearfully & Wonderfully Made

- ◆ Each learning experience affects the mind
- ◆ Genetics & experience help form a learning style unique to each personality
- ◆ Since all students cannot be taught in the same way, personalized instruction is required
- ◆ No student is average
- ◆ Individualized instruction is aimed to reach the individual in ways the “assembly line” concept cannot



# The Capacity of the Brain

◆ Left Hemisphere



◆ Right Hemisphere

Is Unlimited

# Ways Of Thinking

- Thinking is the processing of information in the brain
- Information is processed in the right or left hemisphere affecting how the person approaches learning
- Left brain = verbal thinkers
- Right brain = non-verbal
- Right brain creates ideas
- Left brain transmits ideas





# Ways of Thinking

## Left Hemisphere



- ▶ Systematic
- ▶ Verbal
- ▶ Likes sequences & structure
- ▶ Views specifically
- ▶ Plans sequentially
- ▶ Solves problems by analysis of parts

# Ways of Thinking

## ▶ Right Hemisphere

- ▶ Spontaneous
- ▶ Visual
- ▶ Spatial
- ▶ Caters to spontaneity & patterns
- ▶ Views the whole generally
- ▶ Solves problems randomly and intuitively



# Ways of Thinking



- ❖ Classroom seating, structured class time, visual resources favor the left brained visual learner
- ❖ Modern western educational systems favor the left brained thinker

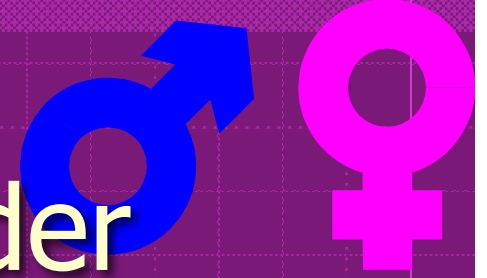
# Comments & Contrasts

- ◆ Personalized offices, open class time, kinesthetic, tactile, and auditory resources, peer groupings favor the right brained visual-spatial thinker
- ◆ Each student is capable of both styles but will favor one above the other





# The Influence of Gender



- ◆ Males are right dominant from ages 3-9
- ◆ Males above age 10 are more verbal
- ◆ Females are predominantly left brained thinkers and after age 10 begin integrating whole brain functions
- ◆ Females are generally superior to males of the same age at whole brain functioning and verbalizing
- ◆ Whole brain function supports ability in science, art, math and music
- ◆ Predominantly left brained and right brained individuals are found in both sexes

# Two Kinds of Memory

- ◆ Spatial – natural long term
- ◆ Rote – short term
- ◆ Information that is personally meaningful requires little effort to memorize
- ◆ Spatial memory is 3 dimensional and lasting
- ◆ Learning is enhanced by challenge
- ◆ Learning is inhibited by threat



# Enhancing Long-term Memory

- ◆ Increase the number of study sessions
- ◆ Review material at longer intervals
- ◆ Increase frequency of testing to enhance retention
- ◆ Review information by mixing the sequence and order



# Application of Memory Theory



- ◆ Make learning a meaningful experience
- ◆ Maintain a moderate but relaxed tension
- ◆ Provide personally meaningful experiences
- ◆ Use alternate questioning and reflection
- ◆ Utilize techniques aimed to reach both sides
- ◆ Teach in an emotional setting
- ◆ Vary sequence in lists, shorten, put the most important items first
- ◆ Provide assignments with meaning so that quick evaluation can be made

# The Different Styles of Learning

## ◆ Auditory

- ◆ Like verbalized material
- ◆ Telling
- ◆ Reading aloud
- ◆ About 30% of learners

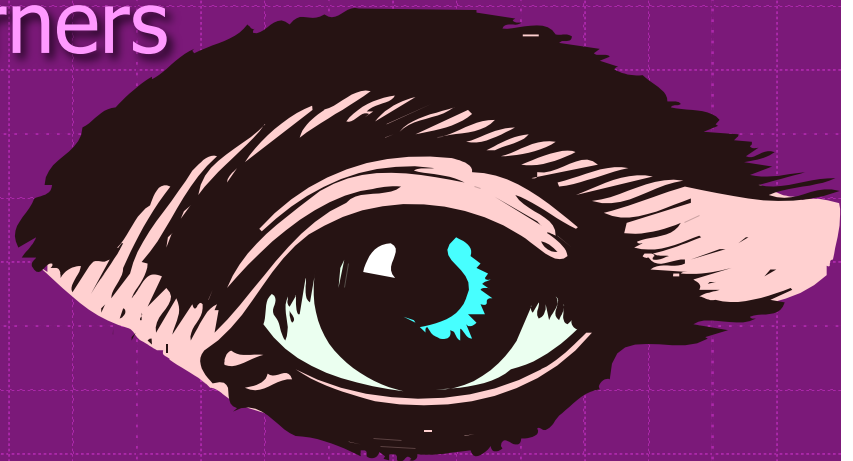




# The Different Styles of Learning

## Visual

- Like written material
- Illustrations
- Diagrams
- Pictures
- About 30% of learners



# The Different Styles of Learning

## ◆ Kinesthetic - Tactile

◆ Touch

◆ Examine

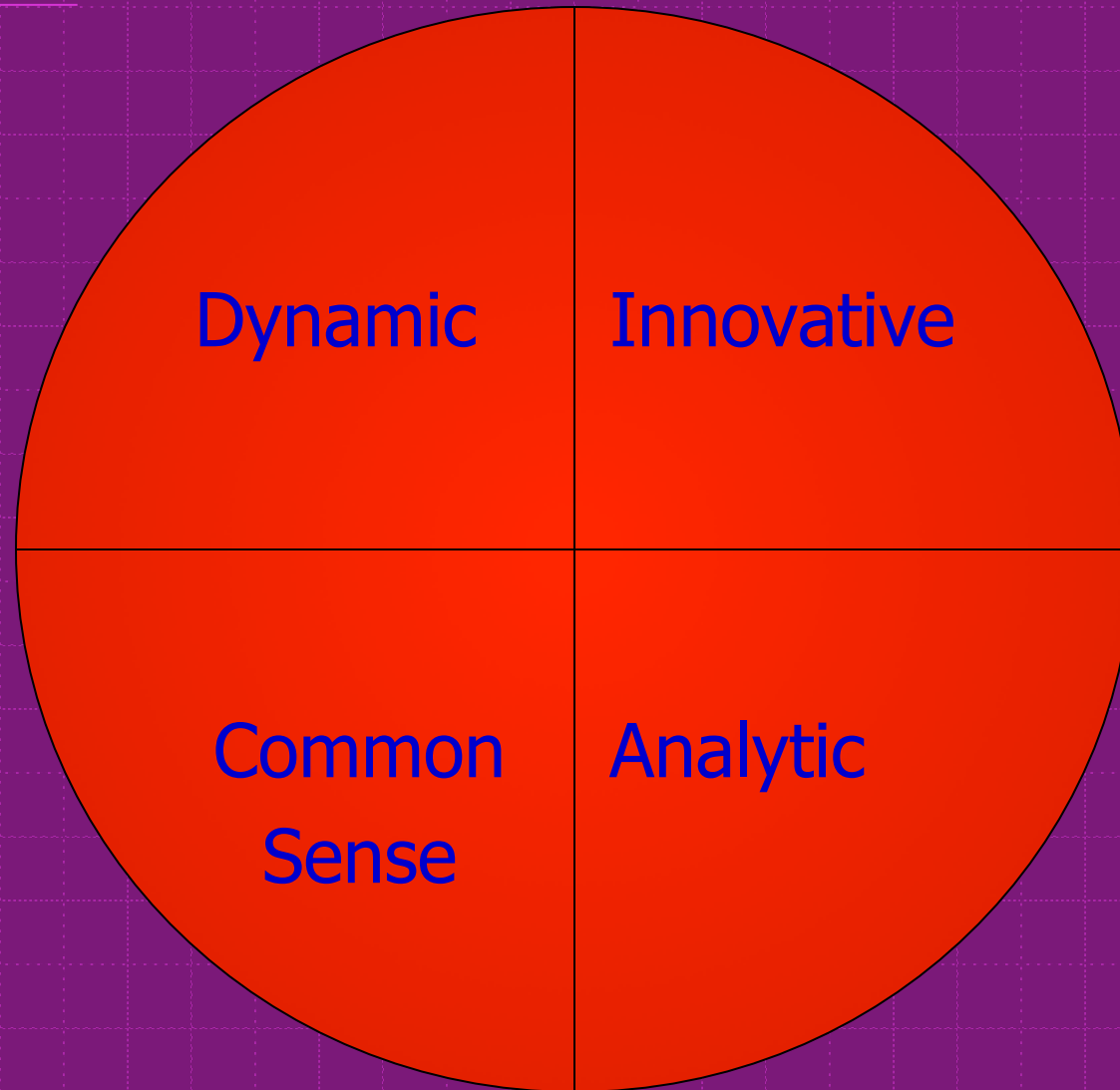
◆ Disassemble

◆ Multi-sensory approach

◆ Most infants learn this way



# The 4-Mat Model





# The 4-Mat Model

Allow creative  
use of the  
knowledge

Dynamic

Activate  
Motivate  
Discuss  
Show personal  
affect

Innovative

Show  
usefulness  
Puts into  
practice

Common  
Sense

Direct  
instruction  
Direct contact

Analytic

# The 4-Mat Model



# Steps from Madeline Hunter

1. Set the stage for learning – inspire
2. State the objective – provide direction
3. Teach the lesson – reach all styles
4. Provide guided practice – show and do
5. Provide independent practice – assign them to do it alone

# Different Levels of Thinking

## ▶ KNOWLEDGE

▶ Who?

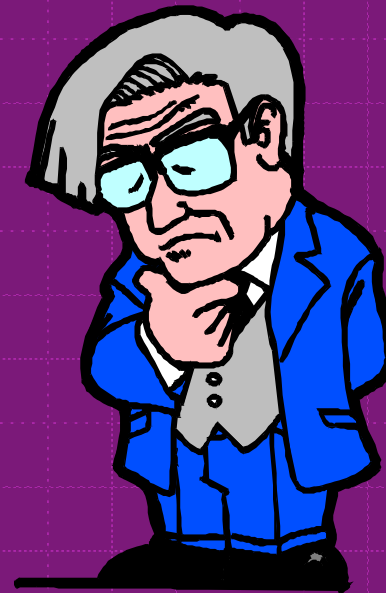
▶ What?

▶ When?

▶ Where?

▶ Why?

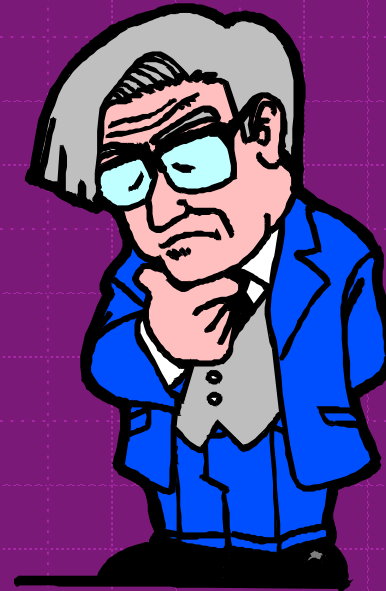
▶ How?



# Different Levels of Thinking

## ▶ COMPREHENSION

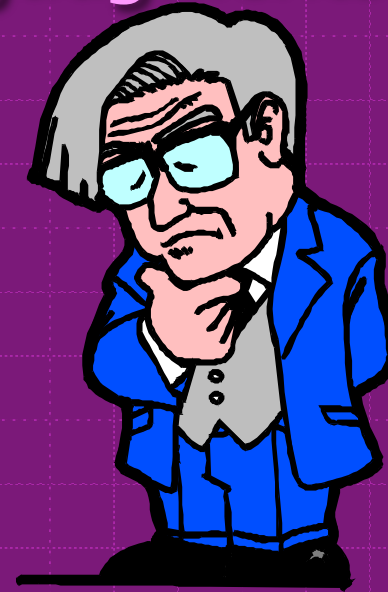
- ▶ Allows grouping
- ▶ Comparisons
- ▶ Description of ideas



# Different Levels of Thinking

## ▶ EVALUATION

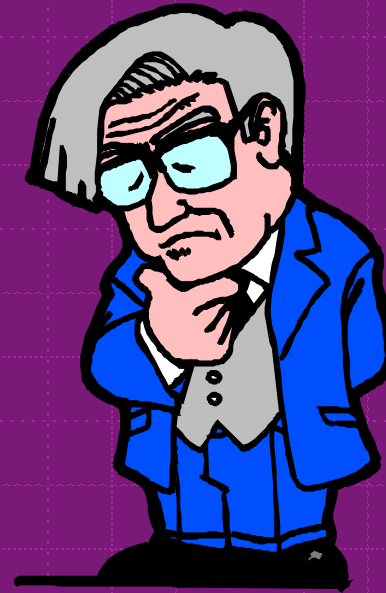
- ▶ State opinions
- ▶ Makes qualitative judgments
- ▶ Tests validity
- ▶ Tests merit
- ▶ Tests quality



# Different Levels of Thinking

## ▶ ANALYSIS

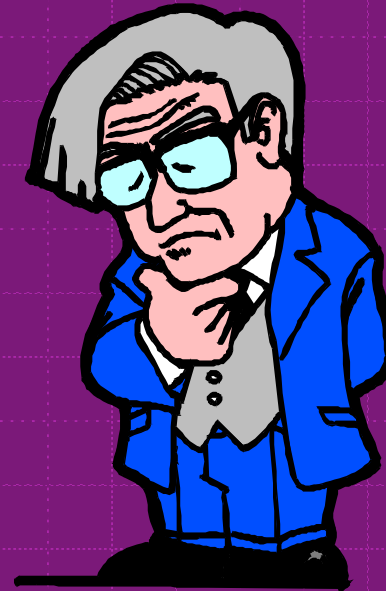
- ▶ Identifies motives
- ▶ Makes inferences



# Different Levels of Thinking

## SYNTHESIS

- Predicts
- Solves dilemmas
- Originates
- Improves





# Different Levels of Thinking

## ▶ APPLICATION

- ▶ Uses information to solve problems
- ▶ Enact initiatives

