

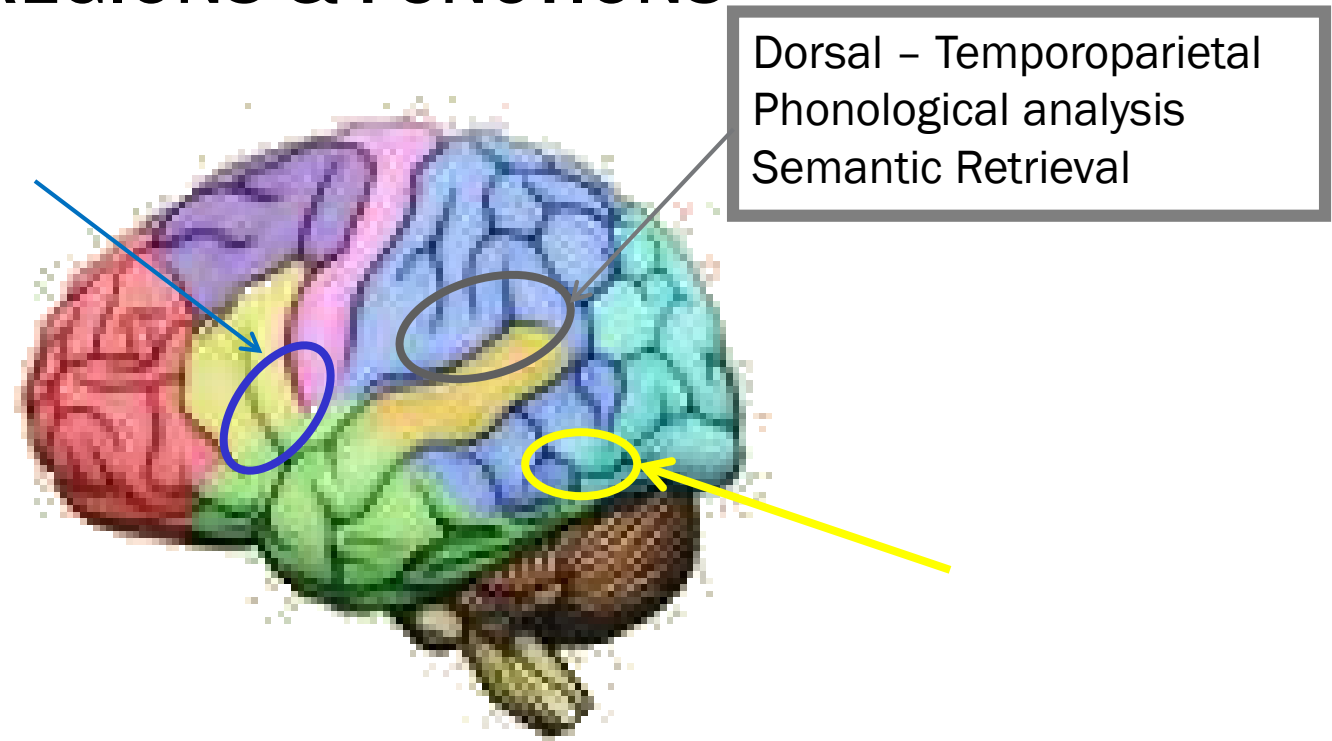
DYSLEXIA

2011

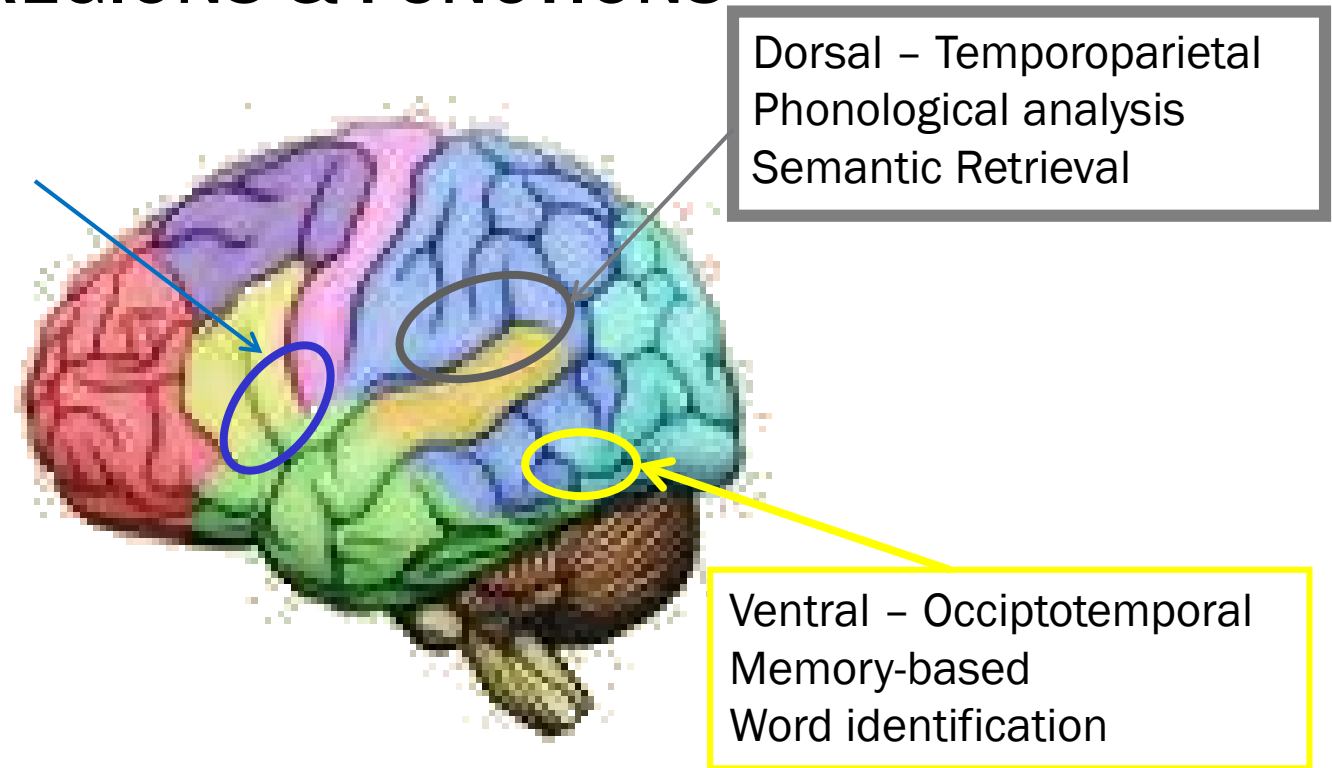
(C)REGINA G. RICHARDS, MA

1

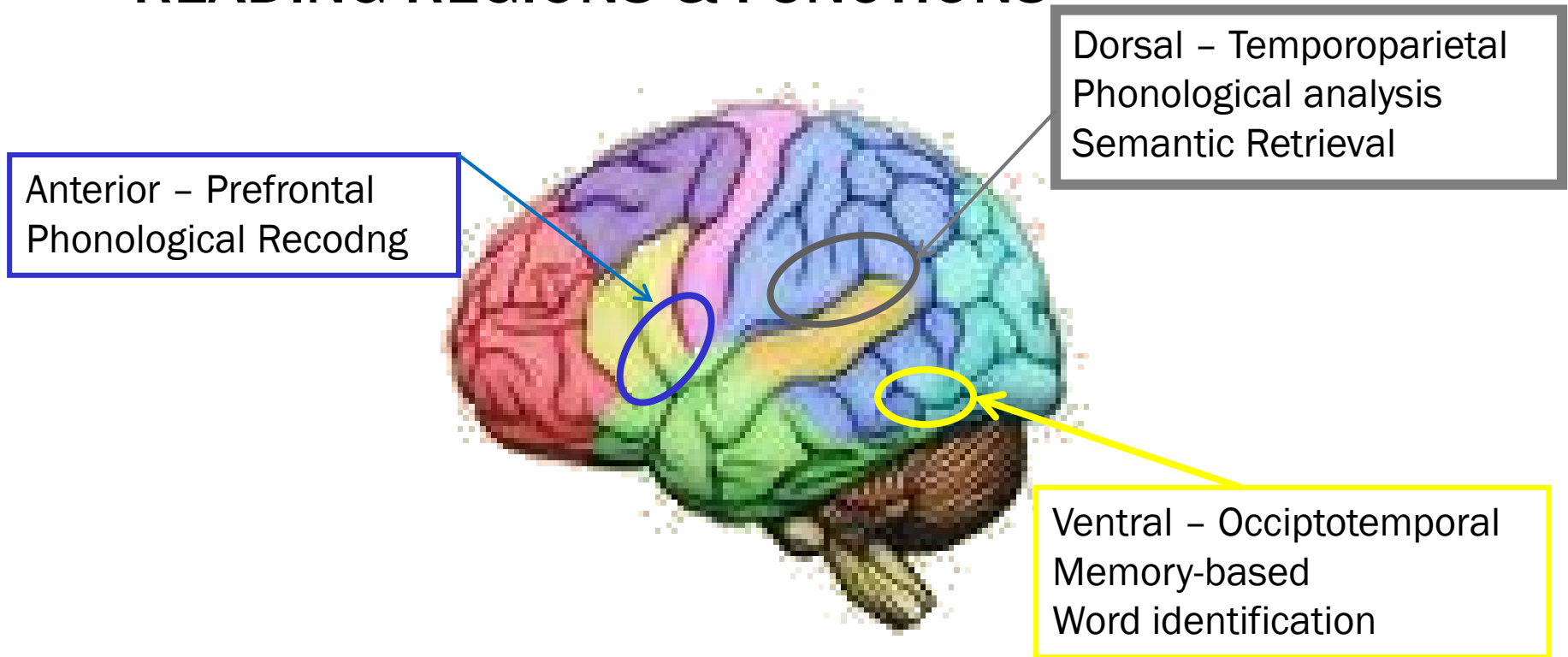
READING REGIONS & FUNCTIONS



READING REGIONS & FUNCTIONS



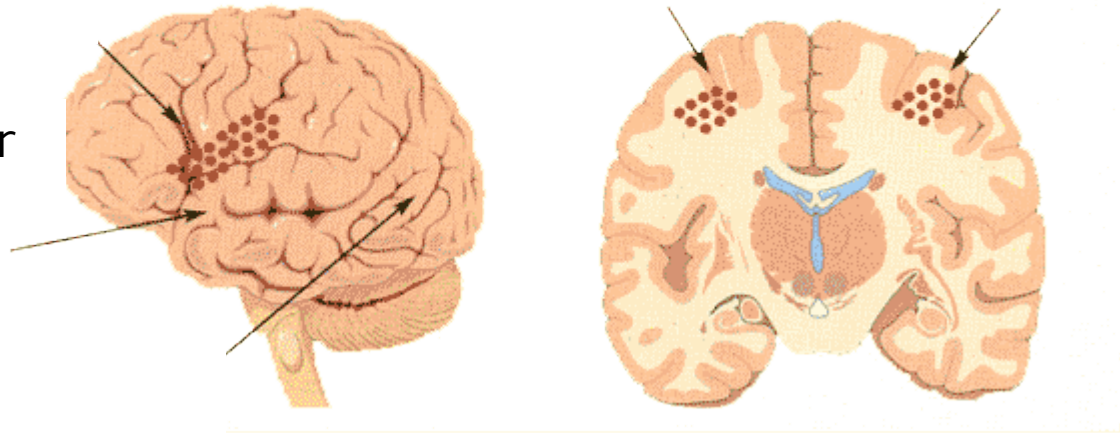
READING REGIONS & FUNCTIONS



READING AREAS EFFECTED BY DYSLEXIA

Middle and superior temporal gyri for meaning-making

LH is major area for processing reading

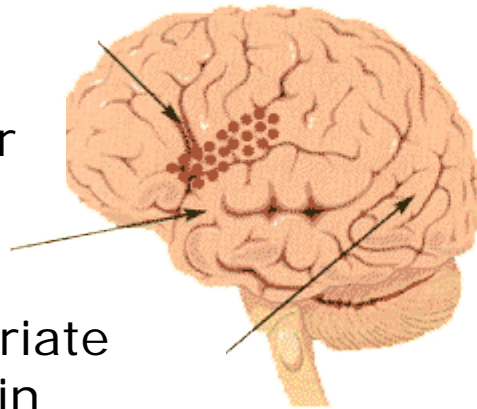


READING AREAS EFFECTED BY DYSLEXIA

Middle and superior temporal gyri for meaning-making

LH is major area for processing reading

Extrastriate cortex in occipital area activated for letter identification



Inferior frontal gyrus is used for phonological processing



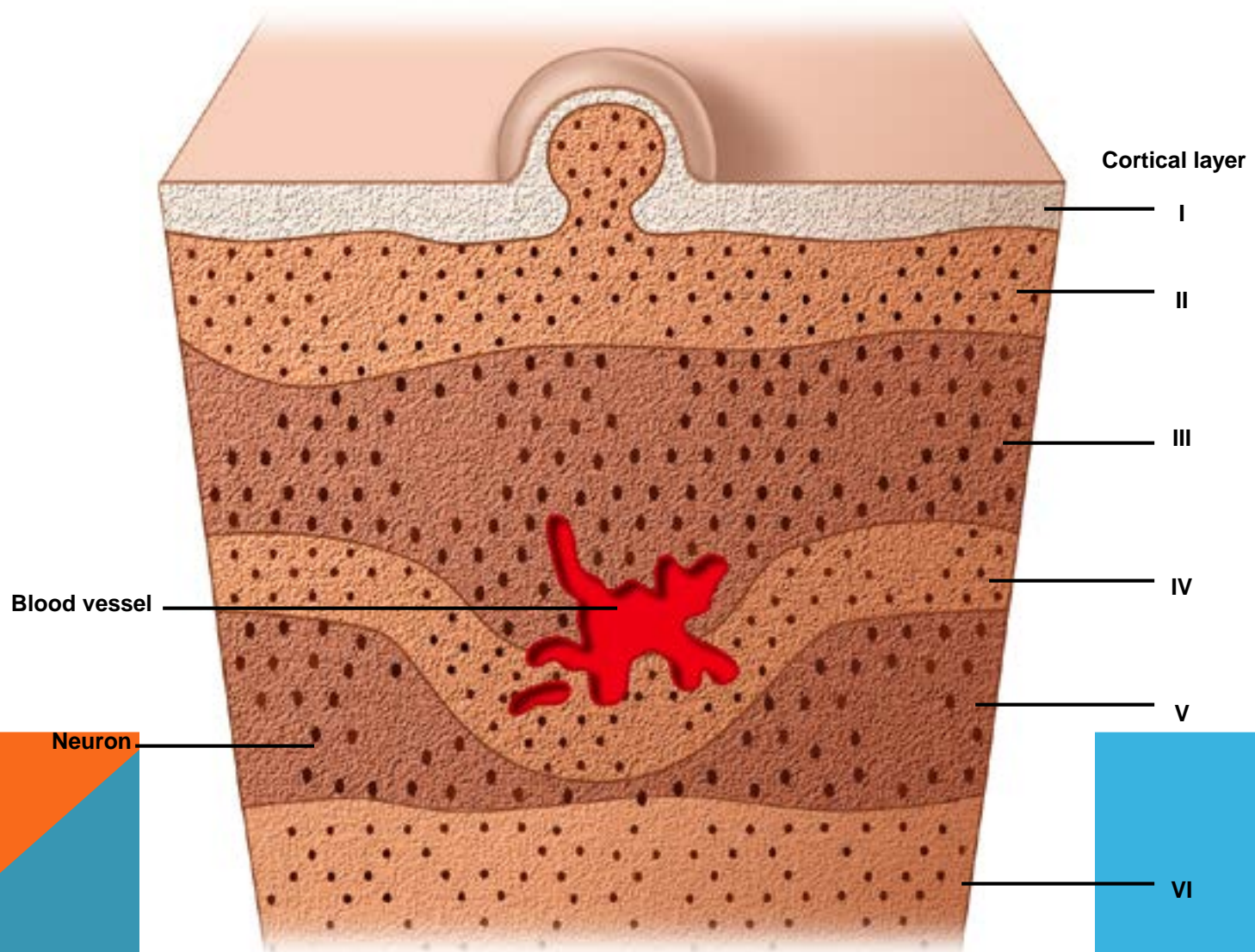
WHAT CAUSES DYSLEXIA

- A Brain breach
 - In the outer layer of the cerebral cortex
- Occurs before 7th month
 - Of prenatal life
- Ectopias

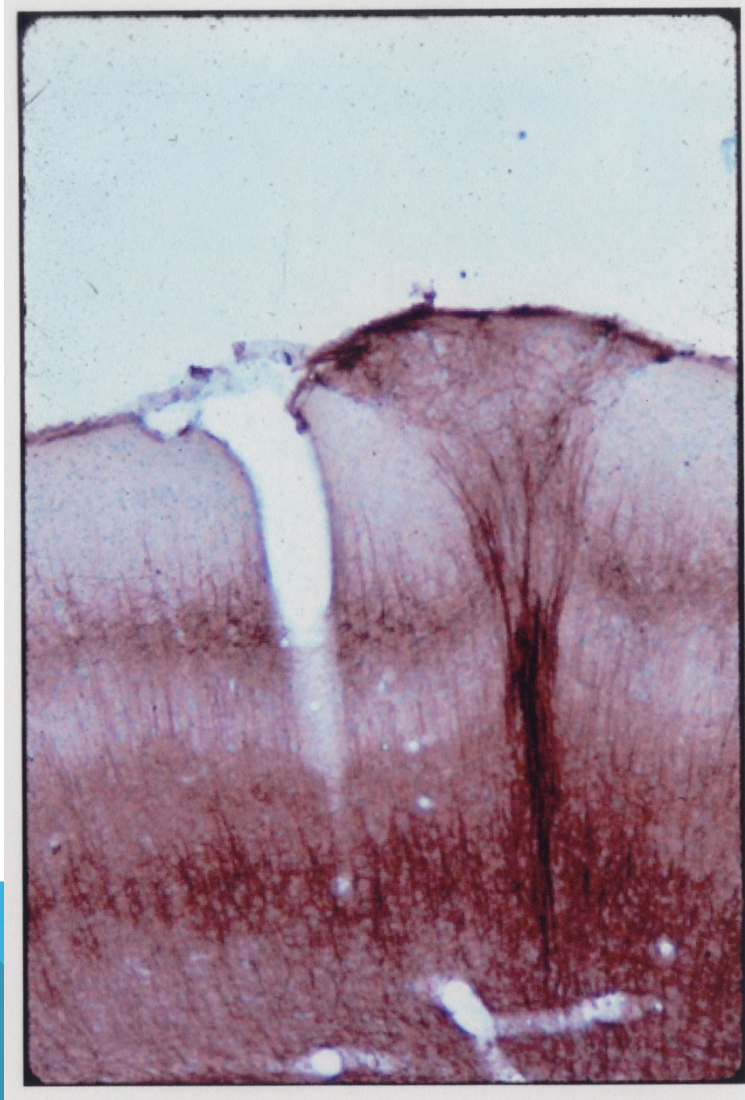
WHAT CAUSES DYSLEXIA

- **Genetic factors**
- **Early changes in brain set the stage**
 - Development of reading disabilities
 - A cascade of effects

SCHEMATA OF ECTOPIA



SLIDE OF ACTUAL ECTOPIA



Slide from
Gordon
Sherman

EFFECTS OF THESE DISRUPTIONS

- Prenatal cascade of events
- Disruption in areas of brain when they try to carry out phonological tasks
 - Less activity in left inferior parietal region

EFFECTS OF THESE DISRUPTIONS

Energy usage – 4-5 times as much

In some studies, it was proven to be 16 times as much energy use for the dyslexic

EXECUTIVE FUNCTION OR PHONOLOGY

Problems in phonology explain differences in decoding

Problems in executive functioning more related to fluency

Virginia Berninger – University of Washington
IDA National Conference November 2008

LINKING

Can't just teach phonology

- Or orthography
- Or morphology

Have to teach kids how to link all of these

Virginia Berninger – University of Washington
IDA National Conference November 2008

Dyslexia

SYMPTOMS OF DYSLEXIA

OTHER THAN READING, SPELLING, WRITING

General areas

- Processing commonalities

Cognitive

Language: verbal and written

- Written language includes both reading and writing

MORE SYMPTOMS

Phonological processing

Decoding

Reading comprehension

Spelling

Written expression

Handwriting

List of symptoms – our brochure and *Red Flags*

CLASSROOM IMPLICATIONS

Dyslexia & is out of *harmony* with

- person's intelligence
- regular teaching
- use of the pencil in non-learning tasks

Unexpected underachievement

- not expected based on other strong skills

PHONOLOGICAL AWARENESS (PA) AND RAPID AUTOMATIZED NAMING (RAN)

“the most striking finding.....the extent to which the two deficits *in combination* depressed all aspects of written language acquisition for affected children”

Poor PA gets child *into* a program.....

Poor RAN *keeps* the child in the program

NAMING SPEED - IS RELATED TO FLUENCY

For severely impaired dyslexic readers,
naming speed appears to be a
powerful

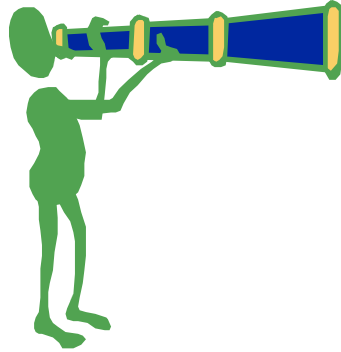
And sometimes the strongest

Predictor of later reading well into
grade 8

Multisensory Strategies

SIMULTANEOUS MULTISENSORY TEACHING

visual



SIMULTANEOUS MULTISENSORY TEACHING

auditory



SIMULTANEOUS MULTISENSORY TEACHING

tactile/kinesthetic



MULTISENSORY LANGUAGE INSTRUCTION

direct
teaching

continuous
interaction



MULTISENSORY LANGUAGE INSTRUCTION

Organization of
materials follows
logical order

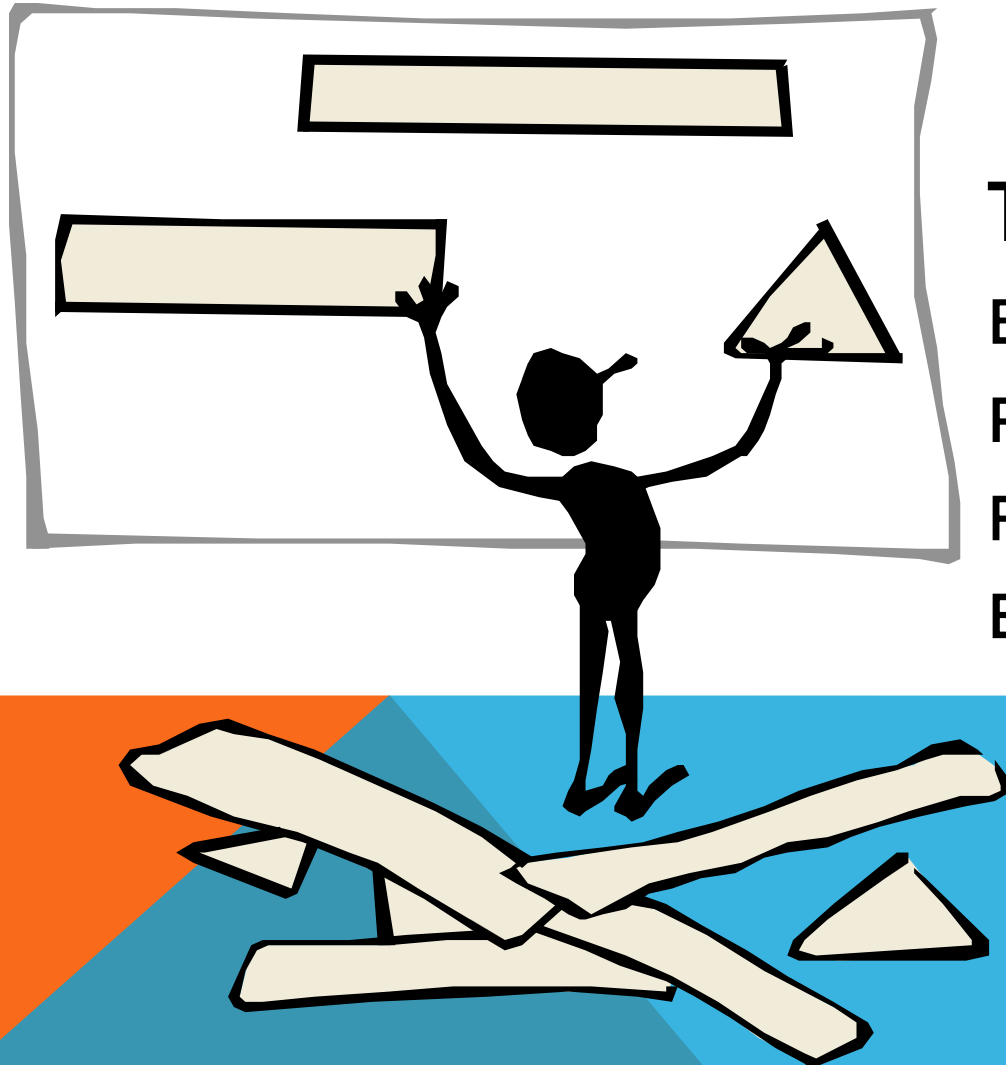
The sequence

Begin with easiest

Progress methodically

Recognition before retrieval

Experience before label



RECOGNITION BEFORE RETRIEVAL

Recognition

- Developmentally more basic

Retrieval

- Requires to sort through and pull out from among all known information

A TEACHING TIP

Recognition

before

retrieval

THE MIND CAN ABSORB ONLY AS LONG AS THE SEAT CAN ENDURE

BE QUIET BACK
THERE!... I CAN'T
HEAR WHAT
HE IS SAYING!

OUCH! OUCH...
HOW MUCH
LONGER???
I'VE HAD
ENOUGH!!

