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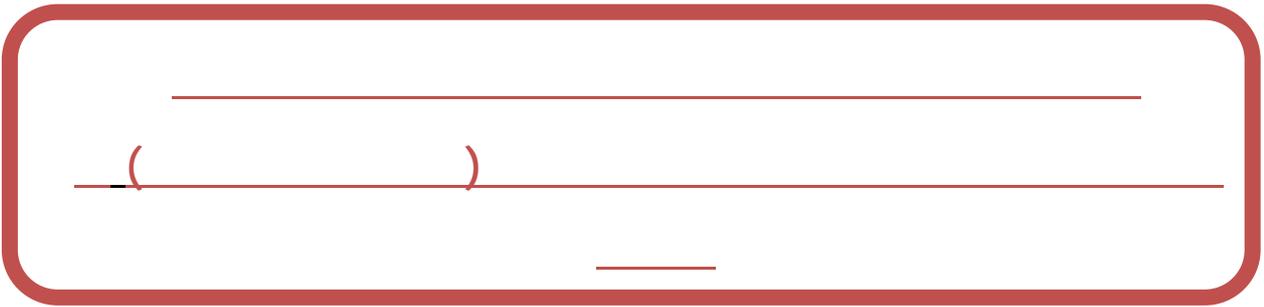
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مقدمة

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(1998 :1998 )

(1824-1880) Paul Broca

(1984-1905) karl wernicke

(1958-1890) Karl spenser lashely

split-Brain

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.(18 :1987 )  
" 1967 (Bateman)  
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1981 ( kim Reid ) ( 156  
2002 ) ( )  
. Gilger & Kaplen ( 15 :  
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( 272 : 2002)

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( 177 :2008 )  
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1984 Kirk and Kelvint

1995 Lavin

( 68 :2003 )

(27 :2005 )

Lyon et al 1982

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Kirk et al

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**: Levine et al 1996 -**

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(189 :2006 ).

**:Dickey 1996 -**

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**:Miller & Mercer 1997** -

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(5-9,2-17,6-71

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: ROURKE ET AL 1978 -

:( Bowen & Hynd 1988) -

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.(145 :2007 )  
:( Morrison 1990) -

:( Oberzut 1996) -

:( Oberzut et al 1996) -

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:( Guo jinge et al2001) -

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.(2002 )

: 2006 -

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230 ( ) (

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(122 : 2007 ).

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: Seigel & Linderl 1984 -

. (162 :2006 ).

:Shalev, Weirman & Amir 1988 -

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: Ashcraft et al 1992 -

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Ashcraft

(Arman & Ekelman) 1988

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(168 :2006

: Keelero lee-Swanson 2001 - -

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.(80 : 1998 )

(82-81 : 1998 ) :

:The fore brain : -1-1

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cerebral cortex

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the hippo

the amygdala  
the septum

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camus

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hupothalamus

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(89-88 : 1998 ) : -2-1

RAS

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Bridge

(RAS)

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(91-90 :1998 )



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| Comissural fibres     | -  |
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| Corpus collosum..     | -1 |
| .Anterior commissure  | -2 |
| .Posterior commissure | -3 |
| Projection fibres     | -  |

**(115-106 : 1998 ) .**

**: \_\_\_\_\_ -4-1**

**(140-138 : 1997 ) . ( .... )**

**: \_\_\_\_\_ -5-1**

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Peterson, Ponser 1988, Peterson, fox, Ponser 1988,1989.

<sup>1</sup>(RCBF)

(PET)

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Regional cerebral blood flow <sup>1</sup>

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**(113 :1998 )**).

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**(134 :1997**

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. (106 : 1998 ).

:frontal lobe : -1-2

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(109 :1998 ).

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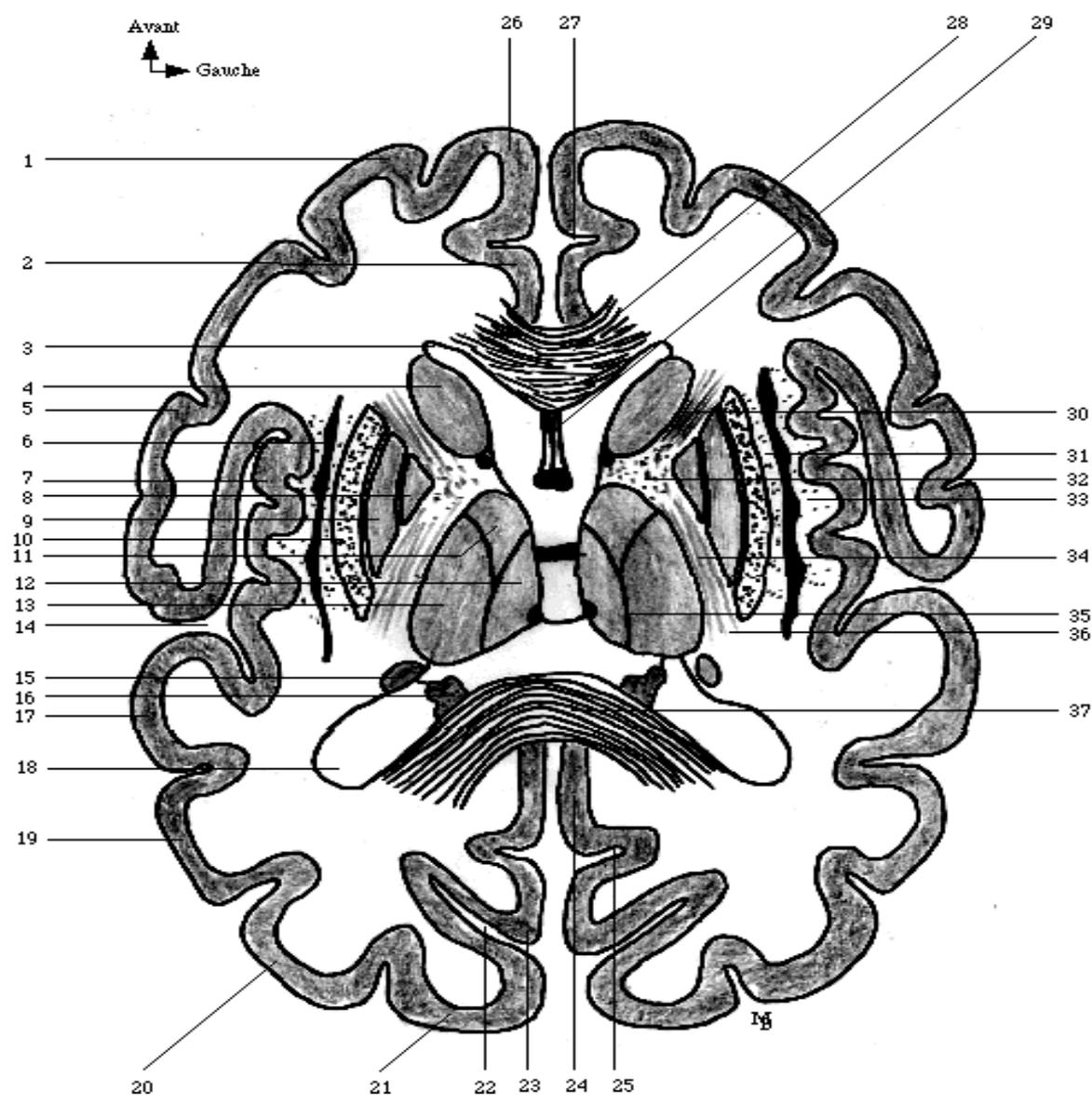
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. (112 :1998 ) .

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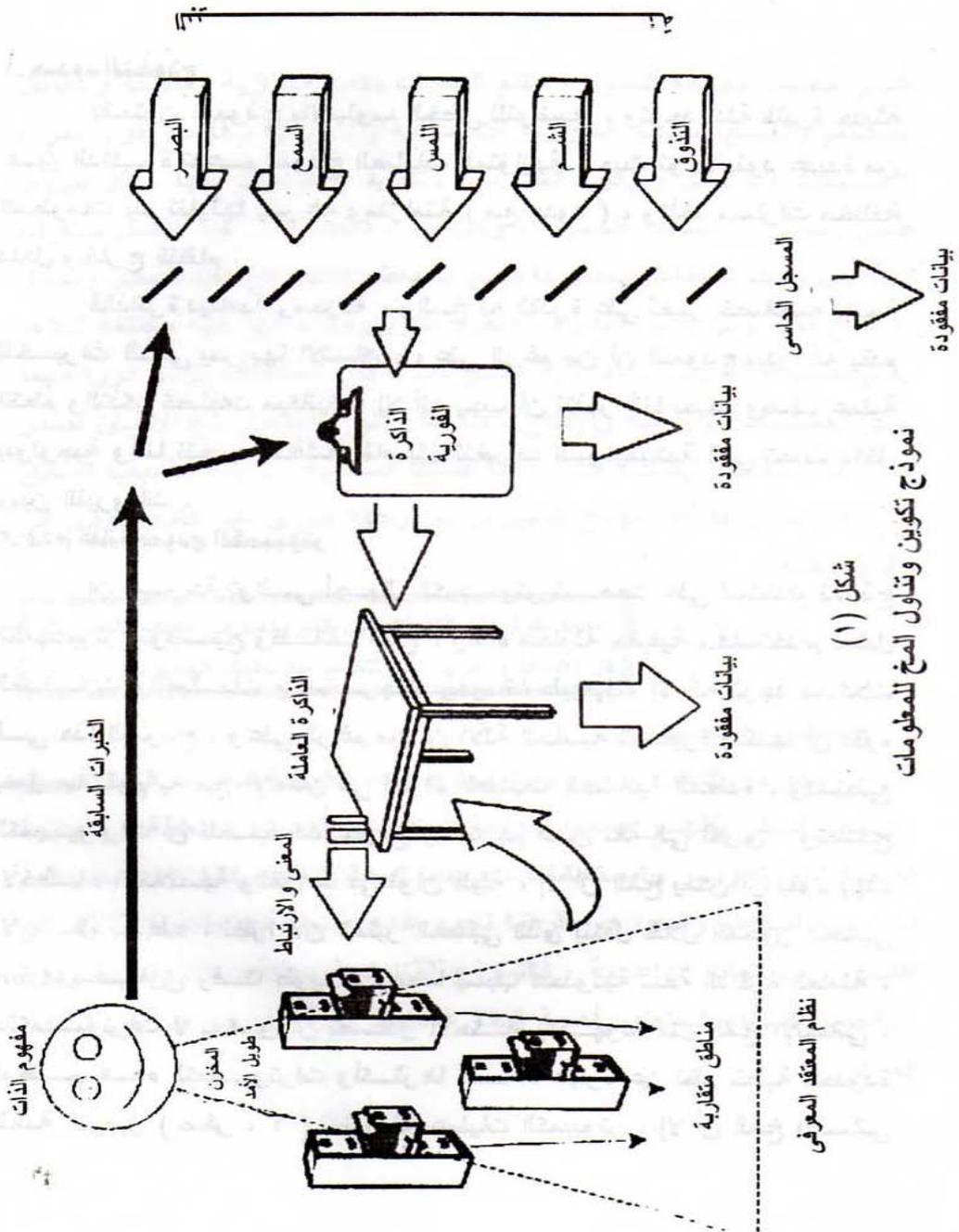
**Coupe axiale du cerveau (coupe de Flechsigs)**

- 1) Gyrus frontal moyen
- 2) Gyrus cingulaire
- 3) Ventricule latéral
- 4) Tête du N. caudé
- 5) Gyrus frontal inférieur
- 6) Claustrum
- 7) Insula
- 8) Globus pallidus interne
- 9) Globus pallidus externe
- 10) Putamen
- 11) NN. antérieurs du thalamus
- 12) N. médial du thalamus
- 13) NN. latéraux du thalamus
- 14) Scissure latérale
- 15) Queue du N. caudé
- 16) Racine du fornix
- 17) Gyrus temporal supérieur (T1)
- 18) Trigone collatéral du ventricule latéral
- 19) Gyrus temporal moyen (T2)
- 20) Gyrus occipital moyen (O2)
- 21) Gyrus occipital supérieur (O1)
- 22) Sillon calcarin
- 23) Cunéus
- 24) Gyrus cingulaire
- 25) Scissure pariéto-occipitale, partie médiale
- 26) Gyrus frontal supérieur (F1)
- 27) Sillon cingulaire
- 28) Genou du corps calleux
- 29) Septum pellucidum
- 30) Bras antérieur de la capsule interne
- 31) Capsule externe
- 32) Genou de la capsule interne
- 33) Capsule extrême
- 34) Bras postérieur de la capsule interne
- 35) Lame médullaire interne du thalamus
- 36) Région rétro-lenticulaire
- 37) Splénium du corps calleux



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2005 : (141)



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(146 :2005 ) .

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Fuse

) thalamus  
stem

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Perceptual sensory filtering

:short- term memory: -

Immediate memory

Working memory

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Cortex

Subconsciously

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Consciously

Experience signal

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(148 :2005 ) .

:Working memory -

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Work table

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Frontal lobes

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filtre

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(156 :2005

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(159 :2005

**:the cognitive belief system :**

(2 )

:Self concept -

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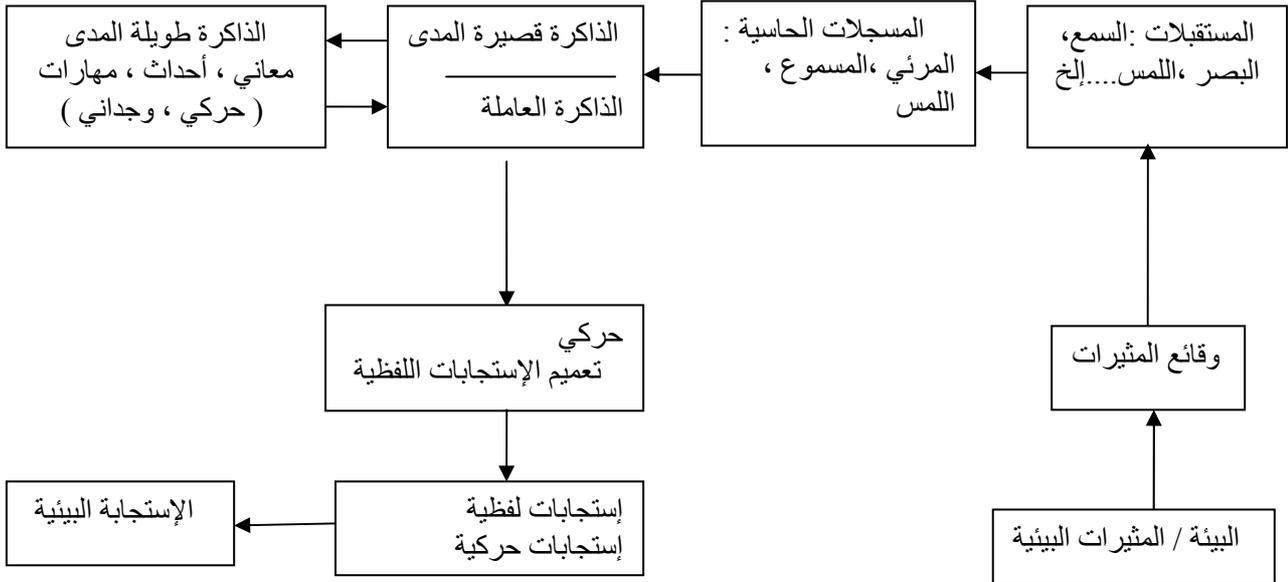
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(161 :2005

1998 ):

(319-317

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processing

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hemispheres

Lobes :

( 42-41 :1996 )

Marc Dax1836

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"aphasia "

(1880- 1824) Paul Broca  
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-1984 Carl wernicke "

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1990-1958 Karl spencer lashely

1994-1920 Roger sperry "

. (102-99 :1998 ).

Micheal Gazzaniga

SPLIT – BRAIN

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( login,1993:p15-16).

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(Paulhac,2000:p27-31) .

John jakson

l'hemisphere dominant

Hygo liepmann

.(11-10 :2005 ). (Apraxia)

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lateralisation

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(handedness)

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. ( 110 : 2005 )

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:left hemisphere : - 1-2-4

Dominant

analytical

Digital

. related function  
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logical reasoning

( 161 :1997

.(143 : 2002 ) .

: right hemisphere : - 2-2-4

indominant

) analogical

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synthesis

.verbal

visuo- spatial

scanning

Image-making

.intuitive

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Musical-made

.(162 :1997

.(112 :1998 )

.(19 :2007 )

(143 :2002 )

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**(Cadet,1998:p95)**asymétrie hémisphérique  
 Mc Torrance 1981  
 carthy& Marris 1994

(20 :2007 ):  
(Torrance 1981) (3)

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1984:

[WWW.MACALESTER.EDU/](http://WWW.MACALESTER.EDU/)

SPLIT BRAIN/HEMISPHERIC SPECIALIZATION

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( mélékian ; 1981)  
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( grapin & perpere ; 1968)

[www.google.com](http://www.google.com). ( %70

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.LES ETUDES TACHISTOSCOPIQUE  
(Muccheilli, Bourcier,1979:p30 )

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(Paulhac, 2000: p 27-31) (

Style of

information processing

Style of learning

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Hemispherity style

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La dominance

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(Torrance 1982)

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( Gil, 1996: p12)

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(Hauck 1986)

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**(182-181 :1998 )**

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(142 : 1997 )

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/ MICHEL HABIB ;04-04-2007;13:45

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(147 :2000 )

.(220 :1987 )

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.(146 : 2000 )

(Torrance &al,1978)

.(118 :1982 )

Gazzinga

Gazzinga

hecaen & ajuriaguerra

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planum –temporal

**(Gil, 1996: p12)**

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**McCarthy & ) (6)**

**(24 :2007 ) (Morris,1994**

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| 1 | Holistic             | 1 | sequential |
| 2 | affective/ Emotional | 2 | Cognitive  |
| 3 | Creative             | 3 | Analytical |
| 4 | Visual               | 4 | verbal     |
| 5 | Artistic             | 5 | Logical    |

(Herrman,1995)

(A) (C) (D)

: (B)

: (7)

| (D)  | (A)  |
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## Coding system

(1997 :162)

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(2005 :111)

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(planum temporal)

(Heshl)

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(Medial geniculate)

( ) (sylvian fissure) -4

(frontal operculum)

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(GABA)

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(Parietal operculum)

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(25-24 :2007 ) :

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Baribeau )

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(et al, 1997

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(Gueratte, 1990)

(Caskey,1989)

Quilty, )

(Belger, 1993)

(Pearson, 1991)

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(30-29 :2007 )

**:Cerebral ablations :** \_\_\_\_\_ **-1-4**

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**Behavioural experiments on normal subjects**

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**:Dichotic listening :** \_\_\_\_\_ **-**

Hahn

Visual perceptual \_\_\_\_\_ -  
:assymetry  
Hahn

:lateral eye movement -3-4

:psychometric Method - 4-4

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| :(Yachimwics et al,1990) | -  |
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| :(Herrman,1996) : | -   |
|                   | 120 |

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Ned Haerrman

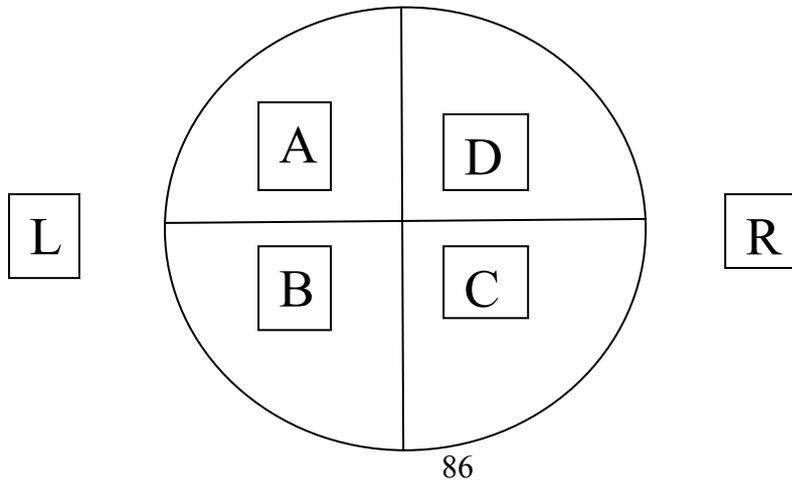
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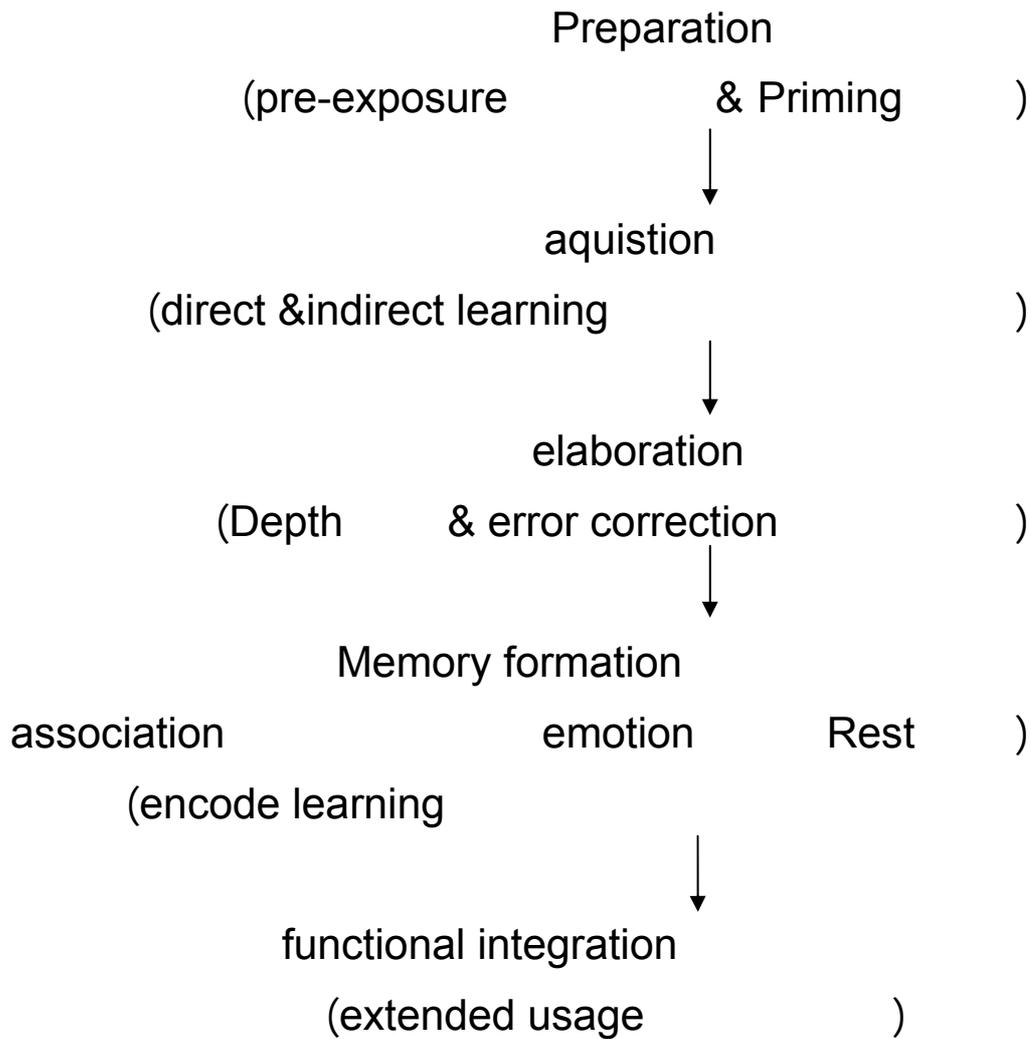
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(Torrance&taggart and taddart,2000)

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(fensen, 2000) \_\_\_\_\_ (5)



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(105 :2004      ).

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**:Auditory pathways : \_\_\_\_\_ -**

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## Wernicke's aphasia

Somesthetic and tactile : \_\_\_\_\_ -  
pathways

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**:Motor pathways :** -

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(Hunter, 1976) (Samples,1975)  
1982 (Reynlds & torrance, 1978)  
(1986) (Regina,1984)  
(1992) (1991) (Grevenow,1988)  
Helge et ) (1997) (1993)  
(1998) (1996) (al, 1994  
(2003) (2002)

(32 :2007 ).

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(Bagot,1999 : p1 ).

.(52 :1985 )

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.(226 :2000 )

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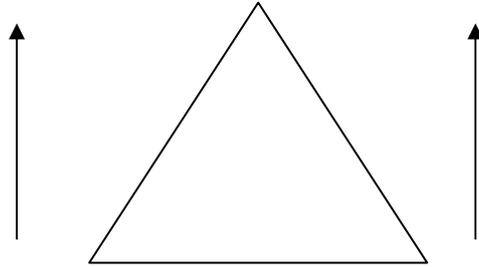
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(Ewald hering:1878:1964)

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(80-78 : 2001 )

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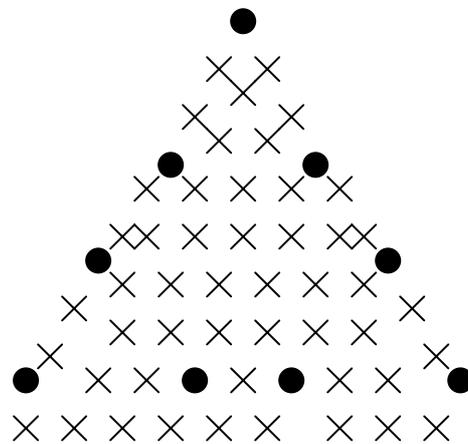
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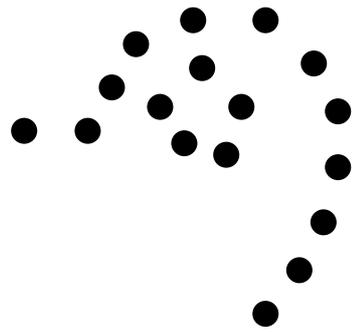
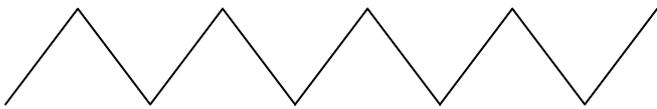
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Muller & Iyer •  
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(Neisser, 1967)

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(Pribram, 1963)

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(Simon, 1967

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(39 :1987 ).

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DAVID MARR

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**(Vocabulaire des sciences cognitives, 1998: p300**

**(149 : 2001 , ) :**

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**(90-89 :2001 ):**

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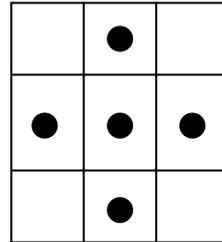
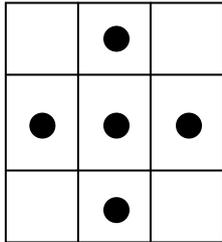
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(93 :2001 , ) .

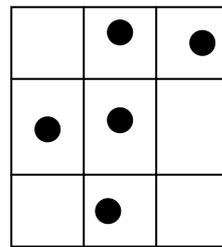
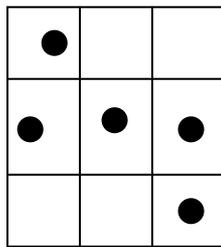
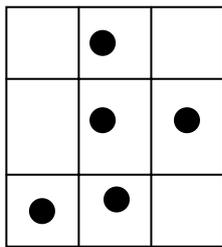
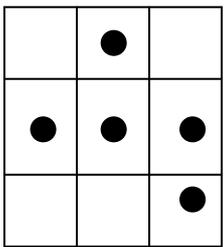
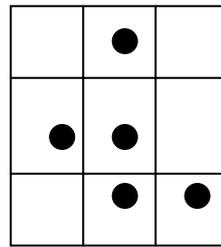
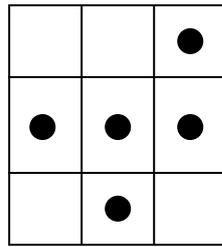
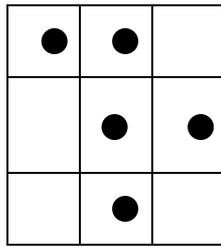
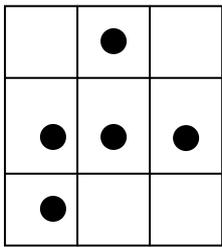
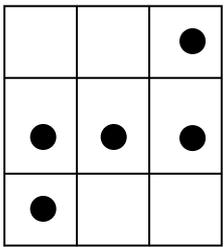
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**(115-113 :2005**

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**(70-69 :2003 ) :**

(Bruns and watson)

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(simon, 1976)

Bruce, et al )

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**.(61 :2005 )**

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**(369 :1998**

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**Klataky75 K.rowderk 76**

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(Linden,1989:p2).

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.(261 :2002 ) .

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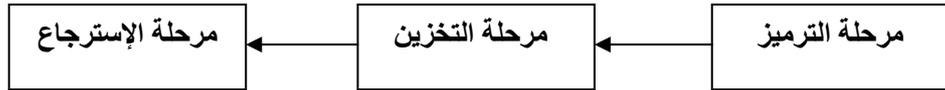
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(373-372 :1998 ) :

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Ulric Neisser

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( Delacour,1998:p119).

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**(le maire, 1999: p51)**

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**(Vocabulaire des sciences cognitives,1998:p389)**

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**(125-124 : 1996 )**

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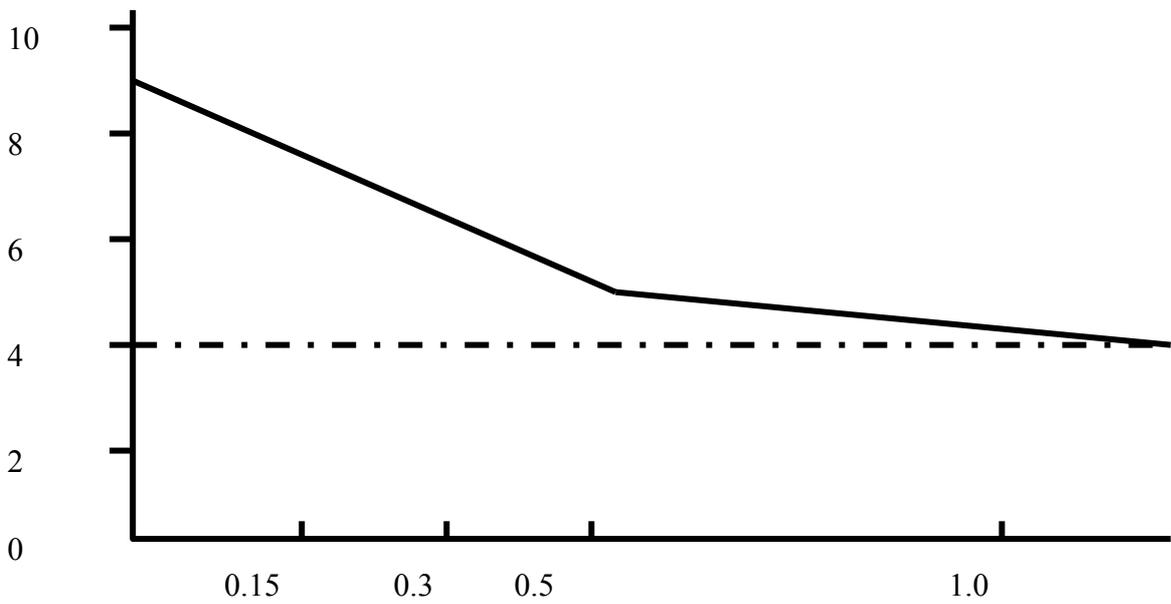
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(Weldon & Roediger 1987)

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Swanson (168 :2003 )

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**(Vocabulaire des sciences cognitives,1998:p300)**

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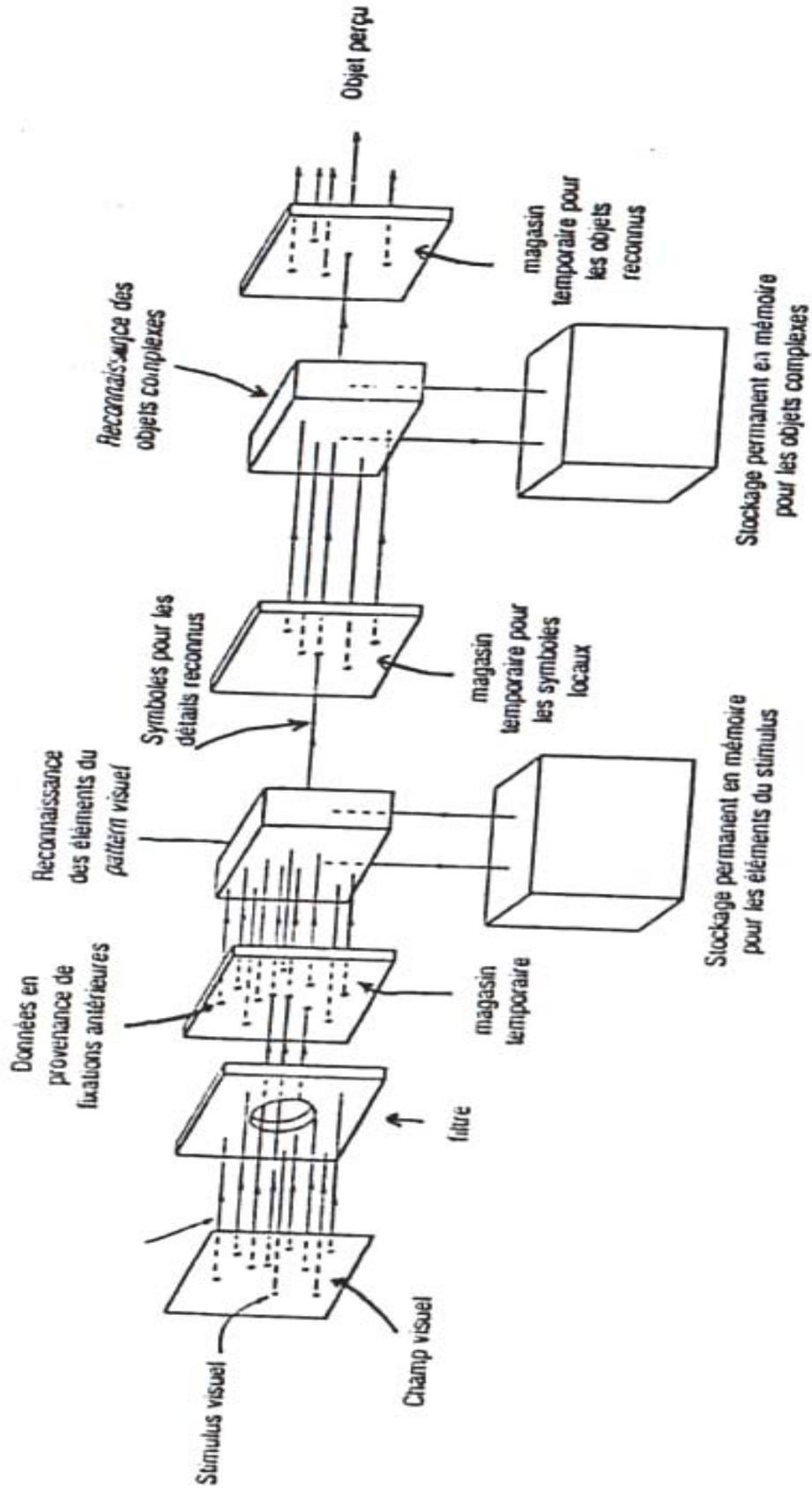
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(Cadet,1998:p124).

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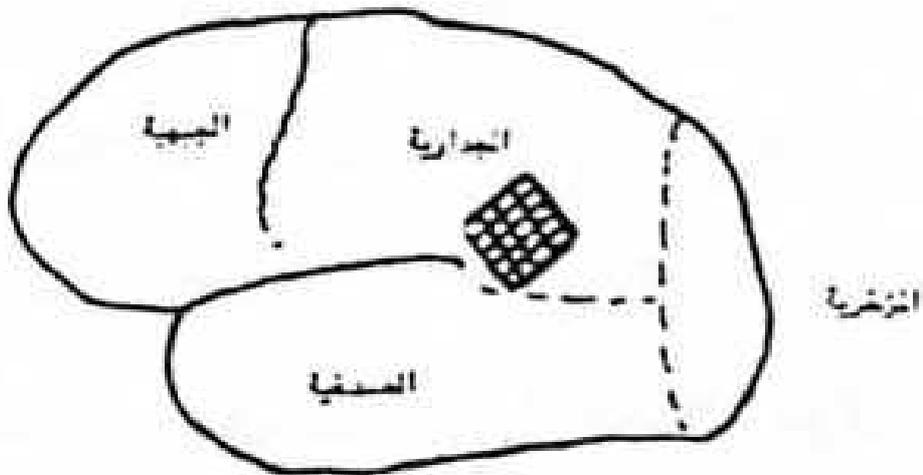
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:verbal developemental dyscalculia -1

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| <b>1/1</b>   | secondary<br>dyscalculia | ( )<br>-<br>.( ) |   |
| <b>1/1/1</b> |                          |                  |   |

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|--------------|------------------------|--|--|
|              | Dyscalculia            |  |  |
| <b>2/1/1</b> | acalculia              |  |  |
|              | oligocalculia          |  |  |
| <b>3/1/1</b> |                        |  |  |
| <b>2/2/1</b> | Secondary<br>acalculia |  |  |

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(Molko, ) .

**Deheane,2004:p47**

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| <b>3/2/1</b>   | Secondary<br>Oligcalculia |  |  |
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| <b>2/1/1/1</b> | Montor- verbal<br>dyscalculia |                |  |
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| 2/2/1/1/1/1 | <p>Apraxic<br/>Dyscalculia</p>                            |  |                            |
| 3/2/1/1/1   | <p>numeriacal<br/>dyscalculia</p> <p>Literal dyslexia</p> |  | <p>12    21</p> <p>9.6</p> |

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|                  |  | apaticagnosia           |                         |
| <b>3/1/1/1</b>   | Lexical<br>dyscalculia<br><br>Namerical<br>dylexia |                         | 21<br><br>12<br><br>9.6 |
| <b>1/3/1/1/1</b> | Numerical<br>dysgraphia                            |                         |                         |
| <b>4/1/1/1</b>   | Graphical<br>dyscalculia<br><br>numerical          | literal<br><br>dyslexia |                         |

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| <b>2/4/1/1/1</b>   | Numerical<br>dysmbolia     | graphical dyscalculia<br><br>numerical dysgraphia |  |
| <b>1/2/4/1/1/1</b> | ideognostic<br>dyscalculia |   |  |

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| <b>2/2/3/1/1/1</b> | Acalculia  |              |                 |
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(Molko, Deheane,2004:p47)

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**(Molko, Deheane,2004:p47)**

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1998Kosc

(67-66 :2006 ) :

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(Jordan, Montani, 1997)

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(Shara, Moffitt & silva, 1998) -  
Reid and Hughes 30  
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(Lewis et at) -  
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DSM-IV

(Mooman,1998) "

(75-74 :2006 )

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| the number triangle test | )<br>( | . |

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| Stanford<br>diagnostic test   | 12 |  |
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| diagnostic<br>mathematic<br>Inventory mathematics<br>systems. | 12      |  |
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(Ashlock, 1976)

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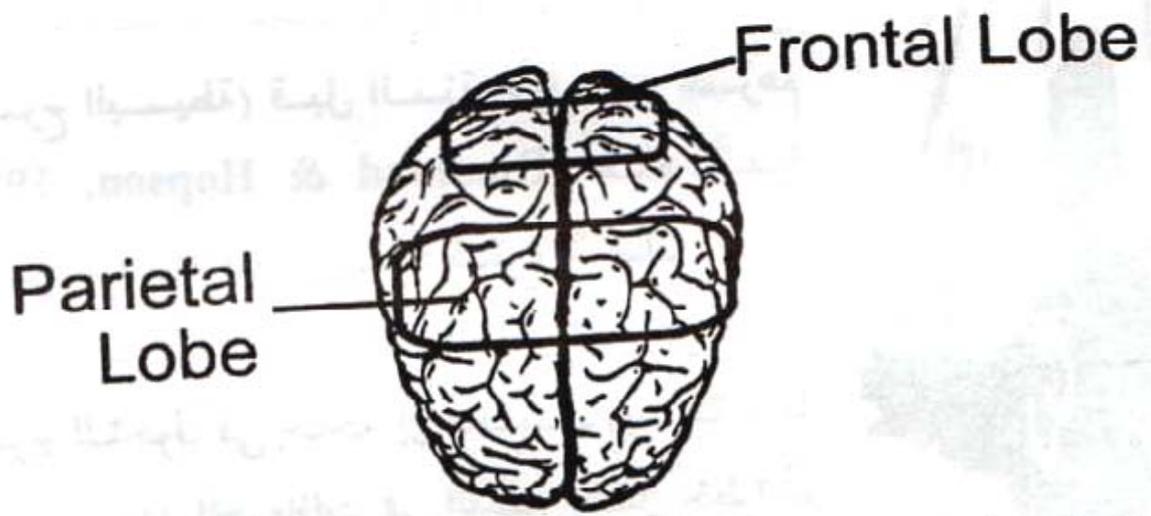
**.(162**

Whalen et al, )

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(Molko, Deheane,2004:p47) .

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|     |     | 2/2   | 30  | 25  | 55  |
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| -1- | 800 | 2/2   | 18  | 28  | 46  |
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| -2- | 800 | 3/3   | 53  | 53  | 106 |
|     |     | 3/3   | 56  | 46  | 102 |
|     |     | 2/2   | 25  | 27  | 52  |
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|     |     | 4  | 3  | 7         | 3  | 4  | 7         |
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Processus séquentiels : (

Processus simultanés : (

Processus mentaux composite : (

Connaissances : (

16 K.ABC

(kaufman,1998:p38-45) :

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: Mouvements de main: -

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:Mémoire immédiate des chiffres: -

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: suites de mots -

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: Fenêtre magique: -

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: Reconnaitances de personnes : -

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: Reconnaitances de formes: -

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(12.5-2.½)

: Triangles -

(12.5- 4)

: Matrices analogiques -

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: Mémoire spatiale -

(12.5- 5)

: Séries de photos -

(12.5- 6)

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**:Vocabulaire courant** -

.(4.11-2.½)

**:Personnages et lieux connus** -

.(12.5-2.½)

**:Mathématique** -

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**:Devinettes** -

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**:Lecture et déchiffrement** -

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**:Lecture et compréhension** -

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**:Echelle non verbale** (4)

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(kaufman:1998,feuille de dépouillement )

|  | X |   | X |   | X |   |   |   |
|--|---|---|---|---|---|---|---|---|
|  |   | X |   | X |   | X | X |   |
|  | X |   | X |   | X |   | X | X |
|  | X |   | X |   | X |   |   |   |
|  | X |   |   |   |   |   |   | X |
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|               | .(7 )           | d'échelle |     |
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|               | .( 8 )          |           |     |
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|               | Bande d'erreur  |           | -6  |
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| (F↗)          |                 |           | -7  |
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| Note standard |                 |           | -8  |
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(kaufman,1998:p86)

(22 )

| 10.11-10 | 119 | 0.85 | 0.85 | 0.90 |
|----------|-----|------|------|------|
| 11.11-11 | 121 | 0.83 | 0.90 | 0.92 |
| 12.5-12  | 60  | 0.79 | 0.86 | 0.89 |

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|       | -4 | 0.81 | 0.18 |
|       | -5 | 0.78 | 0.13 |

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| _____ |      |      |
| -4    | 0.15 | 0.72 |
| -6    | 0.14 | 0.82 |
| -8    | 0.19 | 0.64 |
| -9    | 0.19 | 0.62 |
| -10   | 0.14 | 0.77 |

(kaufman,1998:p105) .( )

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Pearson -1

$$(\sum X) - (\sum X)$$

(228 :1978 )

$$\frac{\sum X - (\sum X)}{\sqrt{[\sum ( ) - 2] [\sum ( ) - 2]}}$$

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$$\frac{1 \times 2}{2 + 1} =$$

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$$2 - 1$$

(253 :2004 )

$$\frac{\frac{1X}{(1- )} - \frac{2( ) - (2 )}{( )}}{\sqrt{}}$$

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$$\frac{2[ ]}{2} - \frac{[2 ]}{1} \sqrt{\quad} =$$

: F .6

(373 :1978 ).....F =  $\frac{MSB}{MSW}$  = \_\_\_\_\_ = \_\_\_\_\_ %

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$$\sqrt{\frac{2^2}{2} + \frac{2^2}{1}} = 2 - 1$$

(132 1998 ) .....  $2^{-1} \sqrt{2^{-1}}$  = ( ) -9

(331 :2004 ) .....  $2^{-1}$

$$\sqrt{\quad} = -10$$

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|  | 89.06 | 2   | 44.8 | 34.72 |
|  | 131.8 | 102 | 1.29 |       |

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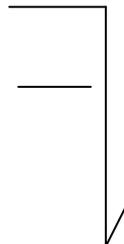
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|   |      | 0.05 | 0.01 |
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| - | 7.36 | X    | X    |
| - | 4.21 | X    | X    |

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3.41

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2.58- 1.96

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|  | 74.55   | 2   | 37.27 | 2.02 |
|  | 1879.50 | 102 | 18.42 |      |

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|  | 35= | 22.08= <sub>1</sub> | 2.45 | 7.79 |
|  | 35= | 16= <sub>2</sub>    | 3.85 |      |

⋮

7.79

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0.01

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⋮

⋮ **-1**

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=<sub>2-1</sub>

0.41 =<sub>2-1</sub>

$$2^{-1} \setminus 2^{-1} = ( \quad )$$

$$14.82 =$$

$$1.96 \quad 0.05$$

$$14.82$$

$$2.58 \quad 0.01$$

$$(0.01-0.05)$$

$$(22.08 = )$$

$$.(16 = )$$

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|  | 35= | 15.48 | 2.50 | 7.13 |
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|  | 544.25 | 2   | 5.33   | 57.88 |
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|  | 617.05 | 102 | 308.52 |       |

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**57.88 =**

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| - | 6.61 | X    | X    |

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$$\begin{array}{r} 2.58 - 1.96 \\ (9.69 = ) \\ (5.51 = ) \end{array} \qquad ( 5.91$$

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(Woolfolk & Nicolish , 1980)

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فإنه يمكن تصنيف صعوبات الإدراك إلى التداخل في أنظمة الإدراك

، وصعوبة إدراك الكل والجزء ، وصعوبة التمييز البصري للرسومات والصور  
والأشكال ، وتمييز الفرق بين مثيرين من ناحية الشكل ، أو الحجم ، أو الشكل أو العمق  
، أو المسافة . (عبد الحميد، 2003:ص68)

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## **Abstract** :

The aim of the following study is to investigate some learning variables, namely dominance of the brain, visual perception and recognition, among 4<sup>th</sup> , 5<sup>th</sup> year pupils in primary schools.

Observation, interviews and tests are used in this study to compare normal pupils with those who show dyscalculia and dysgraphia.

Results show the following:

- 1- There is a significant difference in sequential treatment between the three groups.
- 2- There is a significant difference in simultaneous treatment between the three groups.
- 3- There is no significant difference in composite treatment between the three groups.
- 4- There is a significant difference in visual perception between the three groups.
- 5- There is a significant difference in visual recognition between the three groups.

**Key words**: The lateral dominance of the Brain, visual perception, visual recognition, dyscalculia, dysgraphia.

## **Résumé:**

L'objectif de cette étude est de chercher les différences dans (les types de dominance cérébrale, perception et mémoire visuelle) entre les enfants normaux et leurs pairs dysgraphiques et dyscalculiques.

La méthode utilisée est la méthode descriptive-comparative.

### **Limites d'étude:**

**-spatiale:** l'étude à touché cinq écoles primaires à la wilaya de Batna

**-temporelle:** l'étude à duré huit mois (octobre – mai 2008)

**-humaine:** l'étude est menée sur une population de 105 élève, l'entretien, l'observation, les tests sont les instruments utilisés dans cette étude.

### **Les résultats de l'étude :**

1-il ya des différences statiquement significatives dans les types de dominance cérébrale entre les trois groupes

2-il ya des différences statiquement significatives dans la perception visuelle entre les trois groupes.

3-il ya des différences significatives dans la mémoire visuelle entre les trois groupes.

**Mots clés :** dominance cérébrale, mémoire visuelle, perception visuelle, dysgraphie, dyscalculie

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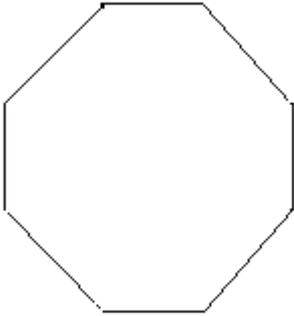
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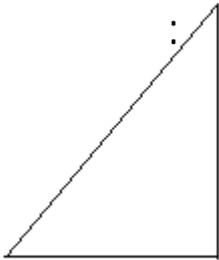
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