

# Learning, to help them learn

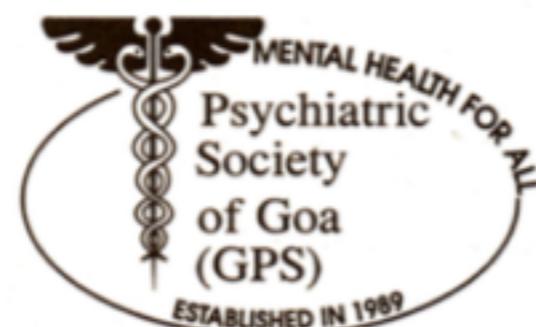
Seminar on Learning Disability and ADHD

25th June 2017

Country Inn & Suites, Patto Plaza, Panaji

Learning Disability (Part 4 of 5)

**Dr Marita Adam & Purva Mandalik**



**Psychiatric Society  
of Goa**



**Goa State Commission for  
Protection of Child Rights**



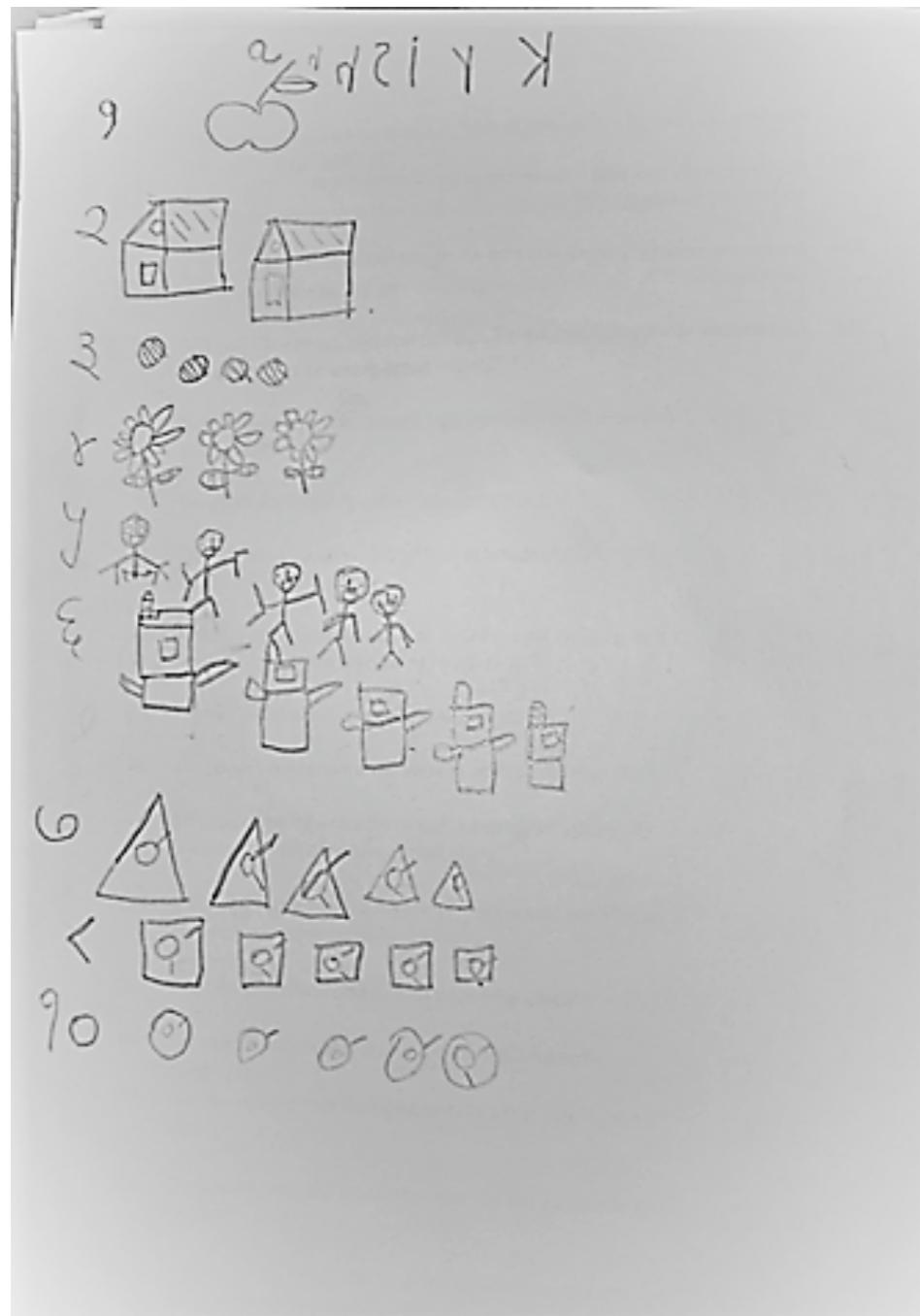
**A N T A R M A N**  
*Centre for Psychosocial  
wellbeing*

# Mathematics

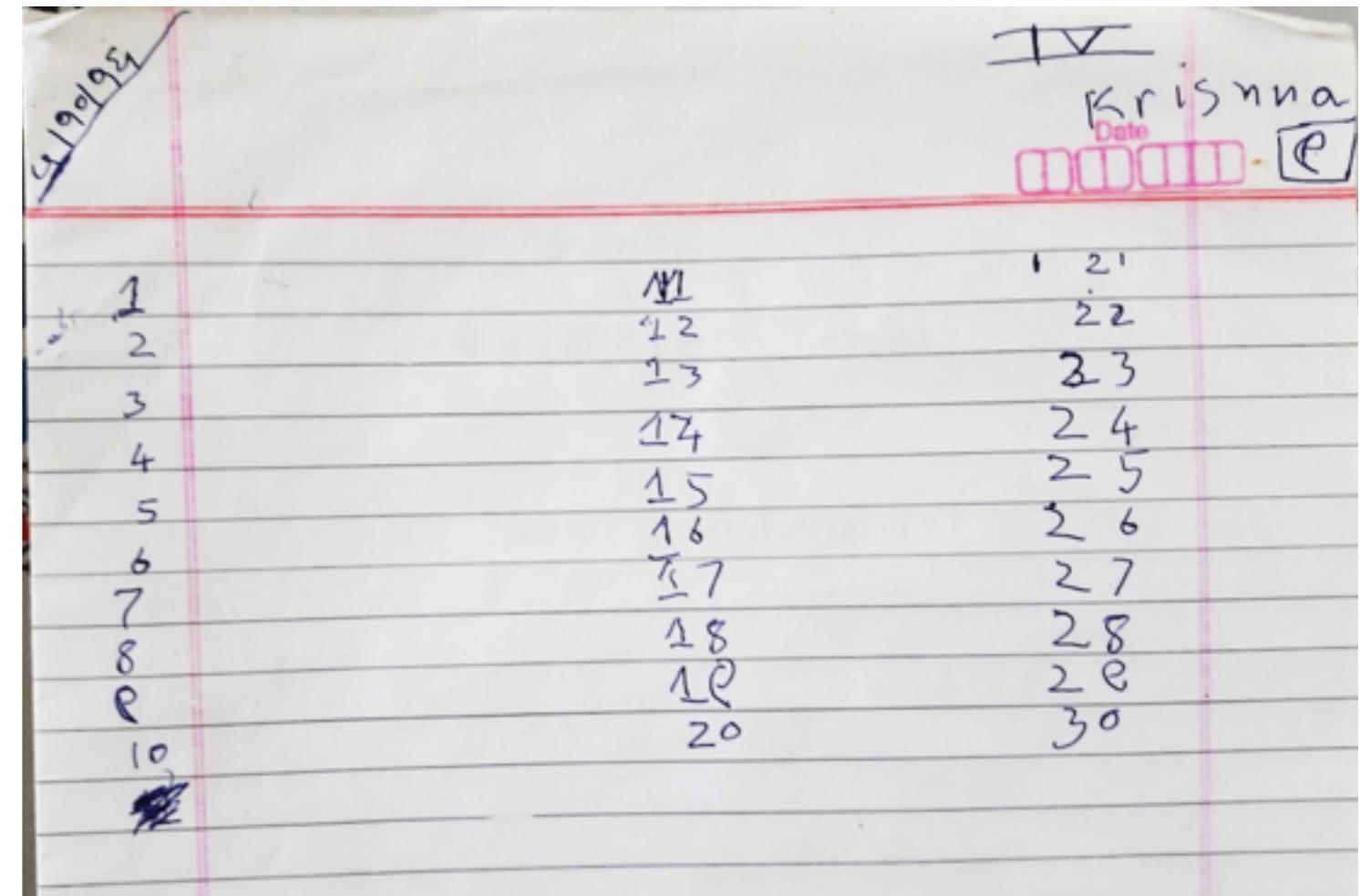
## Dyscalculia

- Often missed in early years
- Children may learn language skills, but may not develop a number sense.

# Difficulty in counting and value of numbers



After 2 years of interventions



Shows difficulty understanding concepts, even after repeated teaching and practice

# Before/after and Value of numbers

1. Fill in the blank with the missing number.

26, 27, 28 ✓

72, 73, 74 ✓

207, 208, 209

2. Fill in the blank with the missing symbol  
using <, >, or =

45 = 54

156 < 156

47 - 87

# Slow in calculation

7<sup>th</sup> Std Student

Three examples of subtraction with regrouping:

$$\begin{array}{r} 21115 \\ - 79 \\ \hline 2 \quad 56 \end{array}$$

$$\begin{array}{r} 3111 \\ - 68 \\ \hline 3 \quad 64 \end{array}$$

$$\begin{array}{r} 31511 \\ - 92 \\ \hline 360 \end{array}$$

Two examples of addition with regrouping:

$$\begin{array}{r} 53 \\ + 16 \\ \hline 69 \end{array}$$

$$\begin{array}{r} 32 \\ + 21 \\ \hline 53 \end{array}$$

$$\begin{array}{r} 34 \\ + 23 \\ \hline 58 \end{array}$$

$$\begin{array}{r} 34 \\ + 23 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 34 \\ + 23 \\ \hline 57 \end{array}$$

4<sup>th</sup> Std Student

Handwritten calculations using tally marks:

$$\begin{array}{r} 21111 \\ - 95 \\ \hline 61 \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 1111111111 \\ + 41111 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 1111111111 \\ + 3111116 \\ \hline 148 \end{array}$$

$$\begin{array}{r} 51111 \\ + 2 \\ \hline 52 \end{array}$$

$$\begin{array}{r} 61111 \\ + 2 \\ \hline 62 \end{array}$$

# Difficulty with Multiplication tables

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	4	6	8	10	12	14	16	18	20	22	24	26	28
3	6	9		15			24	30					
4	8		12	20			32	40					
5	10		25				40	50					
6	12		30				48	60					
7	14		35				56	70					
8	16		40				64	80					
9	18		45				72	90					
10	20	40	50	60	70	80	90	100	110	120	130	140	
11	22		55				110	120	130	140			
12	24		60				144	180	216	240			
13	26		65				169	195	221	247			
14	28		70				196	240	284	328			

48

6 | 48

2 | 6

2 | 2

1

$48 = 6 \times 2 \times 2$

$= 2^4$

X

X

# Fine motor or eye hand coordination difficulties

start of problem your home 48

P(getting a heart) =  $\frac{12}{48} \frac{1}{4}$  ✓

P(getting a king) =  $\frac{2}{48} \frac{1}{24}$  ✓

P(Eating) =  $\frac{1}{48} \frac{1}{24}$  ✓

P(getting up most 6) =  $\frac{12}{48} \frac{1}{4}$  ✓

has at least one possible out come 52

P(getting king) =  $\frac{4}{52} \frac{1}{13}$

P(getting black face) =  $\frac{26}{52} \frac{13}{26}$

To ref

if green

$\frac{14}{46}$  white

$\frac{32}{52} \frac{26}{26} \frac{1}{13}$

# Signs, Zeros and Decimals

$(m, -6)$  lies on  $3x - 2y = 12$

$3x - 2(-6) = 12$

$3x + 12 = 12$

$3x = 12 - 12$

$3x = 0$

$x = \frac{0}{3} = 0$

$\boxed{3x - 2y = 12}$

$3x - 2(-6) = 12$

$3x + 12 = 12$

$3x = 12 - 12$

$3x = 0$

$x = \frac{0}{3} = 0$

$19 \quad \begin{array}{r} 50 \\ \times 40 \\ \hline 00 \\ 200 \\ \hline 2000 \end{array}$

$30 \overline{)1500}$

$1500 \div 30$

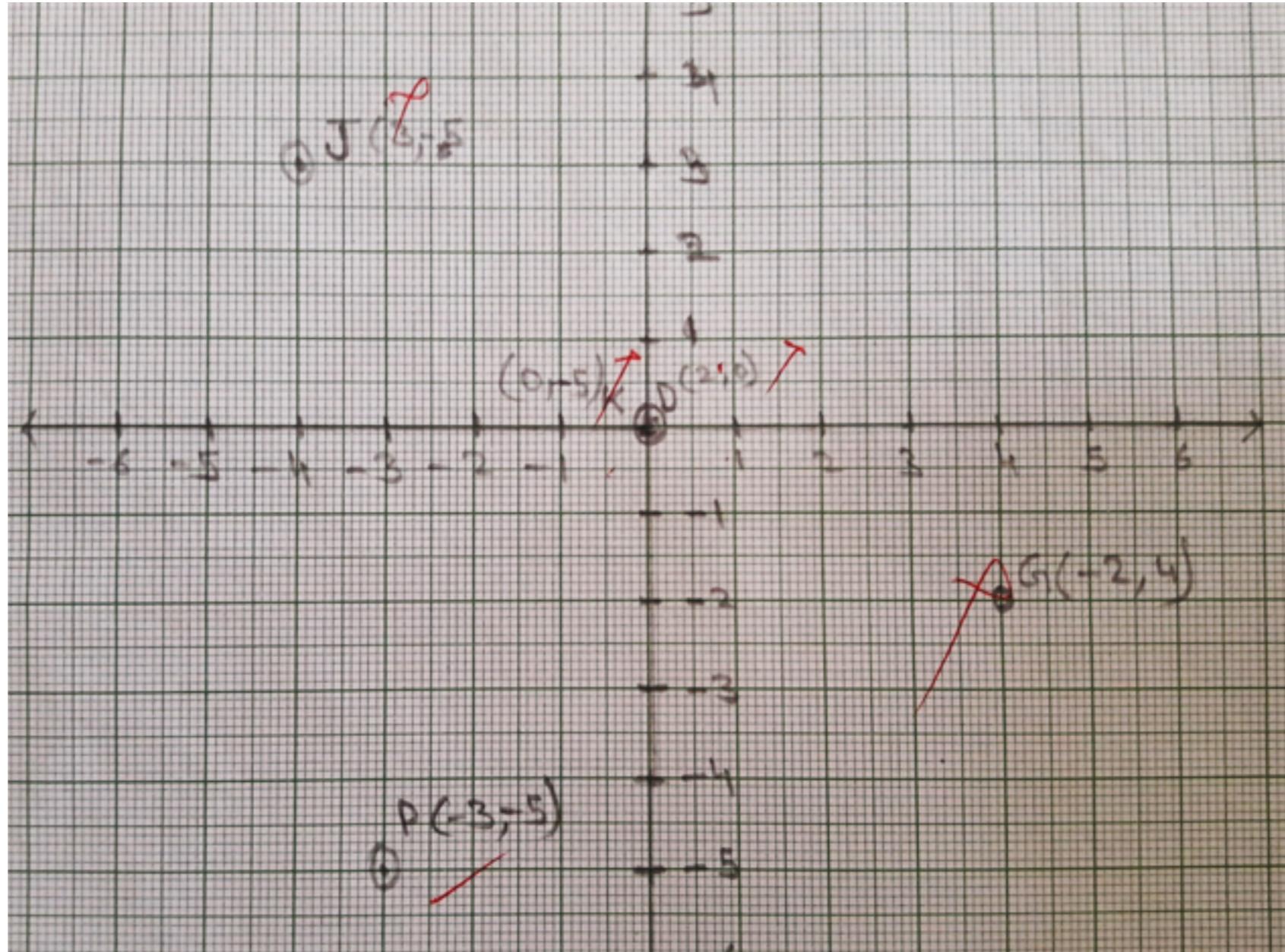
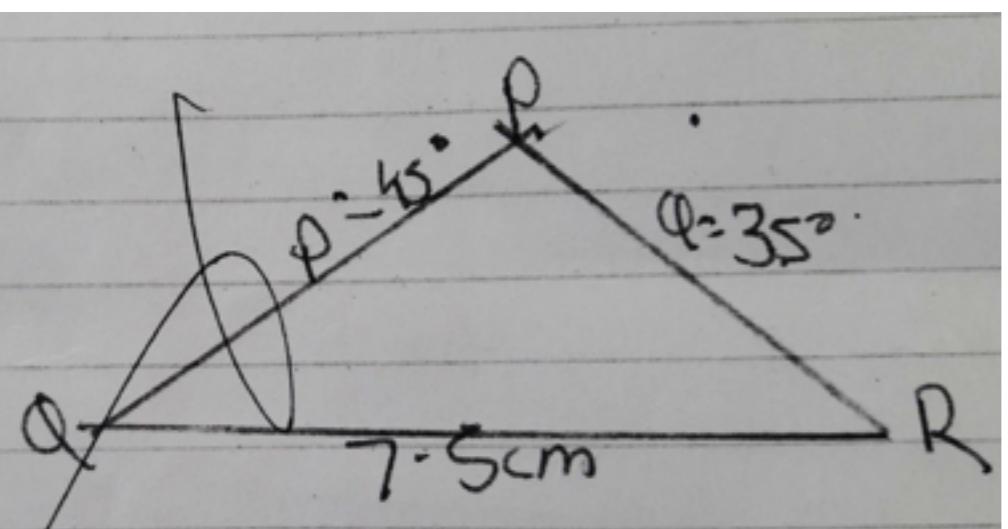
# Directionality (Spatial) Errors

$$\begin{array}{r} 615 \\ + 435 \\ \hline 10410 \end{array}$$

524

$$+ 573$$

1097



# Difficulty in procedure

A photograph of handwritten algebra on lined paper. The work shows the simplification of an expression. The original expression is  $3y + (2y - 4) + 8$ . A red line through the expression  $3y + 2y - 4 + 8$  indicates it is incorrect or crossed out. Below it, the simplified form  $5y - 4 + 8$  is written. A large black oval encircles the term  $9y$ , which is written below the line and has a red 'X' drawn through it. Red arrows point from the circled  $9y$  towards the crossed-out terms above it.

$$3y + (2y - 4) + 8$$
$$\cancel{3y + 2y - 4 + 8}$$
$$5y - 4 + 8$$
$$9y \text{ X}$$

# Word problems - Difficulty in Understanding language

Word Problems (Use the number line to help you.)

1. Jane has 9 balloons. 6 are green and the rest are blue. How many balloons are blue?  
$$\begin{array}{r} \cancel{9} \\ - \cancel{6} \\ \hline 3 \end{array}$$
2. Sam ate 7 cookies and Jane ate 2 cookies. How many more ~~candy canes~~ did Sam eat than Jane?  
$$\begin{array}{r} + \frac{7}{2} \\ \hline 9 \end{array}$$