Intervention period: January to May 2018 (10 weeks, twice a week, 45 minutes each session)

Group: Year 2

Assessment method: Using Sandwell Early Numeracy Test Revised (SEND-R). The test examines children's mathematical ability using five strands (Identification of numbers, oral counting, value/computation, object counting, language).

The total score is 76 for each of Forms A and B tests. A breakdown of scores is listed below:

1. Identification of Numbers (IdenNum): 12 scores

Oral counting (OralC): 10 scores
Value/computation (Comp): 35 scores
Object counting (ObjectC): 4 scores

5. Language: 15 scores

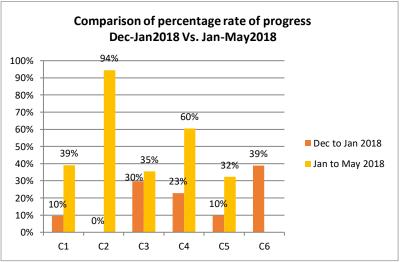
Table 1: Progress based on SATS levels and age equivalent measures

	SATS levels		Age Equivalent						
	Pre- intervention	Post- intervention	Pre-intervention			Post-intervention			
Children	SENT-R	SENT-R	Jan Age (yy:mm)	Jan AgeEq (yy:mm)	Ahead/below? (JanAge vs JanAgeEq)	May Age (yy:mm)	May AgeEq (yy:mm)	Ahead/below? (MayAge vs MayAgeEq)	
C1	2B/2C	2A/2B	07:02	06:08	6 months	07:05	08:00	7 months	
C2	2B	2A	07:00	05:11	13 months	07:03	08:05	14 months	
C3	2B	2A	07:04	06:10	6 months	07:07	08:01	6 months	
C4	2C	2A	07:04	06:05	11 months	07:07	08:04	9 months	
C5	1A	2B	07:01	05:10	15 months	07:04	06:07	9 months	

Table 2: Raw scores, standard score, and percentile

	Pre-	intervention	(Form B)	Pre-intervention (Form A)			
Child's name	Percentile	Raw score	Standard score	Percentile	Raw score	Standard score	
C1	31	46	92	77	64	111	
C2	12	36	82	87	70	117	
C3	34	48	94	60	65	104	
C4	24	43	89	71	69	108	
C5	10	34	80	26	45	90	

Note: Standard scores beyond 100 mean achieving better than the average children within the sample.

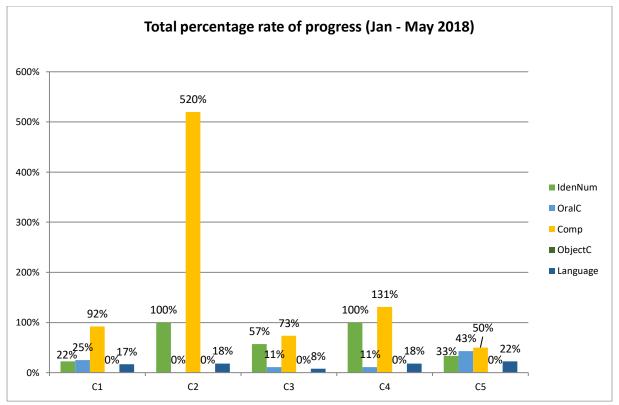


Note: The overall rate of progress = (Post-intervention raw scores – Pre-intervention raw scores) – 1.

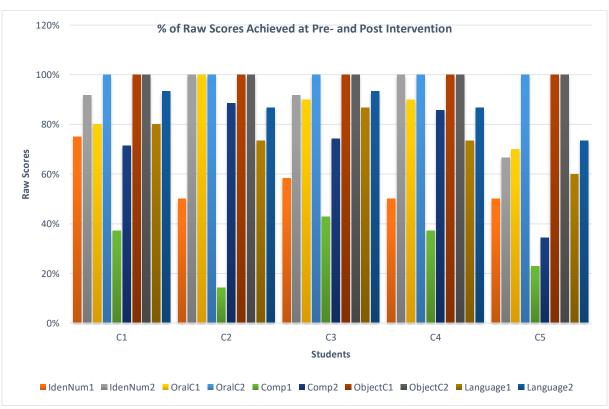
6 children were assessed, but only five were included as C6 was viewed to have gained secure numerical understanding.

Two Sandwell assessments were carried out over two periods:

- 1. Assessment carried out by school (Dec to Jan 2018)
- Assessment carried out during abacus intervention (Jan to May 2018)



 $Note: \ \textit{Rate of Progress} = (\textit{Post-intervention scores} - \textit{Pre-intervention scores}) - 1 \ \textit{for each strand}.$



Note that the percentages are calculated based on (Raw scores obtained/Total scores)

- 1. Identification of Numbers (IdenNum) : 12 scores
- 2. Oral counting (OralC): 10 scores
- 3. Value/computation (Comp): 35 scores
- 4. Object counting (ObjectC): 4 scores
- 5. Language: 15 scores