

Numbers Count



Annual Report 2015 - 2016 all schools

based on data recorded by 30/09/2016



Edge Hill
University

INTRODUCTION

Numbers Count is an Every Child Counts intervention for children who have the greatest difficulties with mathematics. It helps them to make greater progress towards expected levels of attainment so that they will catch up with their peers. It has two versions:

- Numbers Count 1 is designed mainly for children in Years 1 to 3;
- Numbers Count 2 is designed mainly for children in Years 4 to 9.

In both interventions, children normally have daily, 30-minute lessons with a specially-trained Numbers Count teacher in addition to continuing to take part in their normal class mathematics lessons. Accredited Numbers Count teachers decide whether to deliver each lesson individually or to two or three children together, according to the children's needs and the circumstances of the school. Teachers who are in training deliver all lessons individually.

Numbers Count lessons take place in a dedicated teaching area where children can use a wide variety of resources. The teacher begins by making a detailed diagnostic assessment of what each child knows and then plans an individualised programme of lessons for what each one needs to learn next: no two children follow the same programme. Lessons focus on number and calculation, follow a set routine and are rigorous and active. The teacher aims to help each child to become numerate and confident, to enjoy actively learning mathematics and to develop the skills and positive attitudes needed to continue to make good progress in normal class mathematics lessons after completing his or her Numbers Count programme.



A Numbers Count teacher normally teaches several children every morning or afternoon, liaising closely with class teachers to review and plan together for the children's progress. The teacher sets regular homework and meets parents to discuss how they can support their children's learning at home. The teacher undertakes a specialised professional development programme to learn about Numbers Count and about effective methods for teaching number and calculation.

Numbers Count was devised by Edge Hill University as a part of its not-for-profit Every Child Counts programme, through which the University has supported over 6,000 schools to raise more than 140,000 children's achievement in mathematics and literacy. All Numbers Count teachers are trained and supported by local Every Child Counts Trainers, who in turn are trained and supported by Edge Hill University National Advisers.

This report is based on data submitted by schools to the University's online data collection and analysis system. Its purpose is to inform evaluations of the effectiveness of the intervention. The level of detail in the tables depends on the data supplied and the time of year. If you have any queries, please contact the ECC team.

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1. PARTICIPATION IN THE PROGRAMME

Numbers Count is designed for pupils in Years 1 to 9 who have the greatest difficulties with mathematics.

Table 1.1 Pupils receiving Numbers Count support all schools

	NC 1	NC 2	All Pupils	Percentage of Entrants
Entry				
Pupils who began a programme	2,296	562	2,858	
<i>School Year</i>				
Y10	2		2	0%
Y9	2		2	0%
Y8	4		4	0%
Y7	7		7	0%
Y6	34	136	170	6%
Y5	77	212	289	10%
Y4	83	157	240	8%
Y3	234	41	275	10%
Y2	1,708	13	1,721	60%
Y1	127		127	4%
<i>other or not reported</i>	18	3	21	1%
Exit				
Pupils who completed a programme	2,151	510	2,661	93%
Pupils who had not completed a programme	145	52	197	7%

Entered: all pupils who began a programme

Completed: all pupils who completed a programme and for whom entry and exit outcomes were reported

Table 1.2 Schools providing Numbers Count support all schools

	NC 1	NC 2	Either
Schools	316	126	338
Teachers	313	127	345
Local Authorities	75	52	78

all schools that recorded entry data for at least one pupil

2. LESSONS

A pupil's Numbers Count programme normally lasts for at least 40 lessons, including an assessment phase and a teaching phase. Assessment lessons and all lessons taught by new teachers in training are delivered 1-to-1. Accredited teachers decide whether teaching should be delivered 1-to-1, 1-to-2 or 1-to-3 to match the needs of the pupils and the circumstances of the school.

**Table 2.1 Length of programme and lessons received
all schools**

Numbers Count 1	
<i>Number of pupils</i>	2,151
Average calendar weeks	17.9
Average calendar months	4.1
Average number of lessons	41.9
- diagnostic assessment lessons	5.4
- 1-to-1 lessons	22.2
- 1-to-2 lessons	9.8
- 1-to-3 lessons	4.5
Numbers Count 2	
<i>Number of pupils</i>	510
Average calendar weeks	19.4
Average calendar months	4.5
Average number of lessons	42.9
- diagnostic assessment lessons	6.0
- 1-to-1 lessons	26.5
- 1-to-2 lessons	6.7
- 1-to-3 lessons	3.7
all pupils	
<i>Number of pupils</i>	2,661
Average calendar weeks	18.2
Average calendar months	4.2
Average number of lessons	42.1
- diagnostic assessment lessons	5.5
- 1-to-1 lessons	23.0
- 1-to-2 lessons	9.2
- 1-to-3 lessons	4.3

pupils who completed a programme and for whom the programme length or number of lessons was reported

3. TEST OUTCOMES

Schools are encouraged to test pupils' mathematics when they enter and exit from the programme. Entry testing helps to identify their initial attainment and learning needs and exit testing provides an objective measure of the progress that they have made.

TABLE 3.1 shows outcomes calculated by schools or approximate outcomes calculated by Edge Hill University based on raw data reported by schools.

Age	<i>A pupil's chronological age at the time of their entry and exit tests.</i>
Number Age	<i>A Number Age is the average age of pupils across the country who achieved the same test score as the pupil.</i>
Standard Score	<i>A Standard Score compare's a pupil's test score with those of other pupils of the same age across the country. A Standard Score close to 100 is 'average' and 84% of all pupils have a Standard Score of at least 85.</i>

**Table 3.1 Test outcomes
all schools**

	<i>Number of Pupils</i>	Entry Average	Exit Average	Gain Average
Numbers Count 1				
Age (months)	2,151	83.7	87.8	4.1
Number Age (months)	2,149	69.8	87.4	17.6
Standard Score	2,114	84.2	100.2	16.0
Numbers Count 2				
Age (months)	510	112.7	117.1	4.5
Number Age (months)	508	90.8	109.7	18.9
Standard Score	501	83.0	94.9	11.8
all pupils				
Age (months)	2,661	89.2	93.4	4.2
Number Age (months)	2,657	73.8	91.7	17.8
Standard Score	2,615	84.0	99.2	15.2

pupils who completed a programme and for whom entry and exit scores were reported

4. ATTITUDES TO MATHEMATICS

When pupils have completed the programme, their class teachers can assess the attitudes that they show in class towards mathematics. The teachers use an Every Child Counts Attitude Survey to report on 8 aspects of each pupil's attitude, such as taking an active part in lessons, concentration and willingness to 'have a go' without asking for help. For each aspect, they decide whether the pupil is now more positive, about the same, or less positive than before taking part in Numbers Count.

**Table 4.1 Changes in pupils' attitudes towards mathematics
(number of pupils)
all schools**

	Pupils	Percent
<i>Number of pupils</i>	1,637	
Pupils who were more positive after the programme	1,577	96%
Pupils whose attitudes did not change	51	3%
Pupils who were less positive after the programme	9	1%
Net gain	1,568	96%

pupils who completed a programme and for whom an Attitude Survey was reported

**Table 4.2 Changes in pupils' attitudes towards mathematics
(number of aspects)
all schools**

	Aspects
Average number of aspects in which pupils became more positive	5.5
Average number of aspects in which pupils' attitudes did not change	2.4
Average number of aspects in which pupils became less positive	0.1
Net gain	5.5

pupils who completed a programme and for whom an Attitude Survey was reported

5. END OF YEAR ASSESSMENTS

If pupils complete their programmes before the end of May, schools can use a follow-up test at the end of the year to measure their progress since exiting the programme and over the year as a whole.

TABLE 5.1 shows outcomes calculated by schools or approximate outcomes calculated by Edge Hill University based on raw data reported by schools.

Age	<i>A pupil's chronological age at the time of their entry and exit tests.</i>
Number Age	<i>A Number Age is the average age of pupils across the country who achieved the same test score as the pupil.</i>
Standard Score	<i>A Standard Score compares a pupil's test score with those of other pupils of the same age across the country. A Standard Score close to 100 is 'average' and 84% of all pupils have a Standard Score of at least 85.</i>

**Table 5.1 End-of-year test progress
all schools**

	<i>Number of Pupils</i>	Gain from Entry to Exit	Gain from Exit to End of Year	Gain from Entry to End of Year
Numbers Count 1				
Age (months)	664	3.8	5.0	8.8
Number Age (months)	666	17.8	3.8	21.6
Standard Score	663	16.8	-1.1	15.5
Numbers Count 2				
Age (months)	139	4.0	5.2	9.2
Number Age (months)	139	18.7	4.0	22.7
Standard Score	139	12.3	-0.5	11.8
all pupils				
Age (months)	803	3.8	5.1	8.9
Number Age (months)	805	17.9	3.8	21.8
Standard Score	802	16.0	-1.0	14.9

pupils who completed a programme by the end of May and for whom comparable end-of-year outcomes were reported

6. PUPIL CHARACTERISTICS

TABLE 6.1 analyses pupils' participation and outcomes in relation to their background characteristics. It is designed to help schools to monitor the progress of relevant vulnerable groups.

Table 6.1 Pupils' background characteristics and key data all schools

	----- Pupils -----		----- Programme -----			----- Progress -----				
	NUMBER	AGE	LENGTH	LESSONS		NUMBER AGE		ATTITUDE		
	%	months	months	1-to-1	Total	Entry	Exit months	Gain	Improved proportion	
All pupils	2,661	89.2	4.2	23.0	42.1	73.8	91.7	17.8	96%	
School Year										
Y10	1	0%	171.0	3.1	28.0	37.0	57.0	61.0	4.0	1 / 1
Y9	2	0%	163.0	3.2	32.5	39.5	55.5	63.0	7.5	2 / 2
Y8	4	0%	149.3	3.0	25.8	41.0	66.5	75.5	9.0	3 / 4
Y7	7	0%	141.3	3.2	28.6	40.6	69.7	84.0	14.3	5 / 6
Y6	161	6%	126.3	4.5	25.7	42.5	99.8	119.0	19.2	93%
Y5	261	10%	115.7	4.7	25.6	43.3	92.2	111.3	19.2	98%
Y4	219	8%	103.9	4.3	23.4	40.9	83.7	102.1	18.4	97%
Y3	249	9%	91.8	4.3	26.1	41.6	73.4	91.8	18.4	99%
Y2	1,625	62%	79.7	4.0	21.8	42.0	67.8	85.4	17.6	96%
Y1	112	4%	71.1	5.2	22.8	44.8	62.8	77.6	14.8	90%
Gender										
Boy	1,307	49%	88.7	4.2	23.5	42.1	73.2	91.0	17.8	95%
Girl	1,334	51%	89.7	4.2	22.5	42.2	74.4	92.2	17.9	97%
Pupil Premium Entitlement										
Yes	1,189	49%	90.7	4.2	24.0	42.2	74.4	91.9	17.5	97%
No	1,254	51%	87.9	4.2	22.1	42.1	73.3	91.6	18.2	96%
Special Educational Need Status										
Yes	940	39%	91.6	4.4	25.5	42.8	72.1	89.3	17.2	95%
No	1,488	61%	87.7	4.0	21.4	41.8	75.0	93.3	18.3	97%
First Language										
English	1,912	74%	89.2	4.1	23.1	41.5	74.2	91.6	17.3	96%
Other	657	26%	89.3	4.3	23.0	44.0	72.8	92.0	19.3	97%
Season of Birth										
Autumn	680	26%	93.9	4.2	22.5	42.3	74.7	92.3	17.6	96%
Spring	825	31%	89.4	4.1	22.7	41.7	73.9	91.7	17.8	97%
Summer	1,134	43%	86.3	4.2	23.6	42.3	73.2	91.1	17.9	96%

pupils who completed a programme and for whom relevant data was reported