

THE 2004 NATIONAL ASSESSMENT OF MATHEMATICS ACHIEVEMENT

E-Appendix

Tables in this e-appendix provide data which complement analyses in the 2004 National Assessment of Mathematics Achievement. The ordering of the tables correspond to the structure of the report so, for example, the tables in Chapter 4 here support the analysis in Chapter 4 of the main NAMA report.

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4. Mathematics Achievement of Pupils in Fourth Class

Table E4.1 *Unweighted Raw Scores and Percent Correct Scores within Booklet, by Block*

	Raw Score		Percent Correct Score	
	Mean	Sd	Mean	Sd
Book 1 (n=835)				
Block A	14.37	5.61	57.50	22.43
Block B	15.90	4.99	63.61	19.94
Block C	12.75	5.53	51.0	22.14
Total	43.03	15.09	57.34	20.12
Book 2 (n=838)				
Block C	12.25	4.8	49.0	19.19
Block B	15.58	4.84	62.34	19.37
Block D	13.11	5.63	52.44	22.52
Total	40.95	14.14	54.6	18.85
Book 3 (n=827)				
Block D	13.77	5.84	55.06	23.4
Block B	15.86	4.95	63.44	19.79
Block E	13.40	5.30	53.60	21.20
Total	43.03	15.08	57.34	20.11
Book 4 (n=837)				
Block E	13.38	5.14	53.51	20.58
Block B	15.69	4.64	62.78	18.56
*Block F	9.68	4.74	38.70	19.14
Total	38.74	13.27	51.66	17.7
Book 5 (n=834)				
*Block F	10.08	5.06	40.33	20.45
Block B	15.76	4.8	63.04	19.22
Block A	14.12	5.45	56.48	21.80
Total	39.96	13.99	53.29	18.65
All Booklets	41.3	14.52	55.07	19.36

**Block F consisted of calculator appropriate items; students had access to a calculator for this block.*

Table E4.2 Mean Unweighted Percentage Correct Scores, by Booklet

Booklet	%	SE	Diff with BK 5	SED	95%CI	
1	57.3	.67	4.1	.94	-5.93	-2.24
2	55.6	.67	2.4	.94	-4.25	-.56
3	57.4	.67	4.1	.94	-5.93	-2.23
4	51.7	.67	-1.6	.94	-5.93	-2.23
5	53.3	.67	-	-	-	-

Table E4.3 Performance on Process Skills, by Content Strand (1999 and 2004)

	1999		2004		Diff	SED	95%CI	
	%	SE	%	SE				
Algebra								
Implementing	43.1	1.73	38.9	2.81	4.2	3.30	-2.40	10.78
Integrating/connecting	45.0	.82	40.7	1.20	4.3	1.45	1.38	7.18
Reasoning	53.0	.78	52.8	.63	0.2	1.00	-1.80	2.20
Understanding/recalling	31.5	1.68	39.4	2.32	-7.9	2.87	-13.65	-2.21
Data								
Implementing	52.4	.59	49.8	.48	2.6	.76	1.11	4.15
Problem solving	29.4	.74	29.9	.76	-0.4	1.06	-2.56	1.68
Reasoning	39.8	.68	35.1	.83	4.6	1.07	2.48	6.78
Measures								
Implementing	33.1	.63	29.27	.75	3.8	0.98	1.83	5.73
Integrating/connecting	40.6	1.06	42.2	1.24	-1.6	1.63	-4.86	1.66
Problem solving	28.0	.51	18.4	.43	9.6	0.66	8.25	10.89
Reasoning	42.8	.82	38.7	.92	4.1	1.23	1.64	6.56
Understanding/recalling	35.8	.61	37.7	.90	-1.9	1.09	-4.07	0.27
Number								
Implementing	33.0	.56	25.4	.43	7.5	0.71	6.09	8.93
Integrating/connecting	36.8	.88	35.5	1.00	1.3	1.33	-1.40	3.92
Problem solving	28.4	.58	22.6	.54	5.8	0.79	4.21	7.37
Reasoning	34.8	.63	31.3	.68	3.6	0.93	1.70	5.40
Understanding/recalling	45.9	.74	40.2	.71	5.7	1.03	3.64	7.74
Shape & Space								
Implementing	34.5	1.81	38.9	3.32	-4.4	3.78	-11.93	3.15
Reasoning	26.9	.53	24.5	.58	2.4	0.78	0.84	3.98
Understanding/recalling	32.1	.62	29.6	.65	2.5	0.89	0.67	4.25

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E4.4 *Rank Order of Items Based on Mean Percent Correct, by Content Strand and Process Skill, and level of Difficulty*

Rank	Item	% Correct	% Incorrect	Content	Process	Difficulty
1	F1	88.6	11.4	Number	Prob. Solving	Easy
2	F3	80.4	19.6	Number	Prob. Solving	Easy
3	F11	68.4	31.6	Data/Chance	Implement	Easy
4	F2	66.1	33.9	Number	Implement	Easy
5	F13	56.7	43.3	Data/Chance	Implement	Moderate
6	F14	54.9	45.1	Data/Chance	Implement	Moderate
7	F6	53.3	46.7	Number	Reason	Moderate
8	F10	52.1	47.9	Number	Reason	Moderate
9	F7	51.6	48.4	Number	Prob. Solving	Moderate
10	F9	49.1	50.9	Number	Reason	Moderate
11	F8	42.9	57.1	Number	Implement	Difficult
12	F12	40.1	59.9	Data/Chance	Implement	Difficult
13	F18	37.1	62.9	Measures	Prob. Solving	Difficult
14	F22	37	63	Measures	Prob. Solving	Difficult
15	F5	32.5	67.5	Number	Implement	Difficult
16	F4	26.4	73.6	Number	Prob. Solving	Difficult
17	F24	25.8	74.2	Measures	Prob. Solving	Difficult
18	F17	24.4	75.6	Measures	Prob. Solving	Difficult
19	F19	19.8	80.2	Measures	Prob. Solving	Difficult
20	F25	19.8	80.2	Measures	Prob. Solving	Difficult
21	F20	15.9	84.1	Measures	Prob. Solving	Difficult
22	F16	13.8	86.2	Algebra	Reason	Difficult
23	F15	12.9	87.1	Number	Reason	Difficult
24	F21	11.9	88.1	Measures	Prob. Solving	Difficult
25	F23	11.2	88.8	Measures	Prob. Solving	Difficult

5. Pupil Characteristics and Mathematics Achievement

Table E5.1 Mean Mathematics Scores at Key Benchmarks, by Gender

	10 th Percentile		25 th Percentile		50 th Percentile		75 th Percentile		90 th Percentile	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Male	181.8	3.30	218.5	3.82	256.7	4.37	290.7	2.85	316.6	2.74
Female	185.9	5.19	223.9	3.48	251.5	3.37	278.9	3.21	303.6	3.07
Total	182.9	3.04	221.2	2.96	253.6	2.78	285.0	2.89	311.2	2.81
Male/female comparisons:	Diff	SED	Diff	SED	Diff	SED	Diff	SED	Diff	SED
	4.1	6.2	5.4	6.2	-5.1	5.5	-11.8	4.2	-13	4.1

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E5.2 Confidence Intervals for Differences in Mathematics Scores at Key Benchmarks, by Gender

Percentile	Diff	SED	95%CI	
10 th	-4.1	6.2	-8.71	16.90
25 th	5.4	6.2	-3.49	14.33
50 th	-5.1	5.5	-14.73	4.45
75 th	-11.8	4.2	-18.81	-4.84
90 th	-13	4.1	-18.92	-7.09

Significant differences in **bold**; SED = Standard Error of the Difference

Table E5.3 Percentage of Pupils Performing at Each Proficiency Level, by Gender

Level	Gender	n	%	SE	Diff	SED	95%CI	
5	Male	335	14.8	1.56	6.8	1.91	2.99	10.61
	Female	153	8.0	1.10				
4	Male	576	25.4	2.19	-0.6	2.99	-6.56	5.36
	Female	497	26.0	2.03				
3	Male	519	22.9	1.95	-6.9	2.67	-12.23	-1.57
	Female	568	29.8	1.82				
2	Male	477	21.1	2.42	-1.4	3.07	-7.53	4.73
	Female	429	22.5	1.89				
1	Male	294	13.0	1.46	1.6	2.17	-2.74	5.94
	Female	217	11.4	1.61				
0	Male	62	2.8	.90	0.5	1.02	-1.53	2.53
	Female	44	2.3	.47				

Note: Level 5 = Most advanced; Level 1 = Minimum level; Level 0 = Mathematics knowledge not assessed by this test

Table E5.4 *Mean Mathematics Scores at Key Benchmarks, by Traveller Status*

Member of Traveller Comm.	10 th Percentile		25 th Percentile		50 th Percentile		75 th Percentile		90 th Percentile	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Yes	120.0	8.59	159.2	17.53	199.1	8.96	223.7	8.47	251.3	13.06
No	186.9	3.47	222.9	2.93	254.5	2.73	285.2	2.59	312.1	2.69
Total	182.9	2.94	221.2	2.97	253.6	2.96	285.0	2.70	311.2	2.72
Yes/no Comparisons:	Diff	SED	Diff	SED	Diff	SED	Diff	SED	Diff	SED
	66.9	12.59	63.7	19.84	55.4	11.57	61.5	9.07	59.8	11.93

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E5.5 *Confidence Intervals for Differences in Mean Scores at Key Benchmarks, by Traveller Status*

Percentile	Diff	SED	95%CI	
10 th	66.91	12.59	41.76	92.06
25 th	63.73	19.84	24.10	103.36
50 th	55.39	11.57	32.28	78.49
75 th	61.51	9.07	43.4	79.61
90 th	59.75	11.93	35.92	83.58

Significant differences in **bold**; SED = Standard Error of the Difference

Table E5.6 *Mean Mathematics Scores, by Attendance and Gender*

Attendance	Gender	Diff	SED	95%CI	
High	Female	16.14	3.26	8.67	23.61
Low	Female				
High	Male	16.02	3.98	6.88	25.15
Low	Male				
Low	Male	3.44	4.46	-6.79	13.67
Low	Female				
High	Male	3.31	4.10	-6.10	12.73
High	Female				
High	Total	16.18	2.31	11.56	20.8
Low	Total				

Significant differences in **bold**; SED = Standard Error of the Difference

Table E5.7 *Mean Mathematics Scores, by Participation in Extra Classes, and Gender*

Extra classes	Gender	Diff	SED	95%CI	
Not participate	Male	-4.14	3.51	-3.91	12.19
Not participate	Female				
Participate	Male	-4.21	6.47	-10.64	19.07
Participate	Female				
Participate	Male	-23.51	6.41	-38.22	-8.79
Not participate	Male				
Participate	Female	-23.58	6.39	-38.24	-8.92
Not participate	Female				
Participate	Total	-23.56	5.38	-34.3	-12.82
Not participate	Total				
Maths club					
Not participate	Male	2.92	3.27	-4.57	10.42
Not participate	Female				
Participate	Male	8.40	7.02	-7.71	24.51
Participate	Female				
Participate	Male	-29.42	6.44	-44.19	-14.64
Not participate	Male				
Participate	Female	-34.89	9.17	-55.93	-13.86
Not participate	Female				
Participate	Total	-33.34	6.84	-46.99	-19.69
Not participate	Total				

Significant Differences in bold; SED = Standard Error of the Difference

Table E5.8 *Confidence Intervals for Differences in Classroom Behaviour Ratings, by Gender*

	Diff	SED	95%CI	
Behaviour	.47	.10	-.67	-.28
Participation	.29	.07	-.42	-.16
Attention	.47	.07	-.60	-.34
Persistence	.43	.07	-.58	-.28
Social	.20	.06	-.31	-.09
Supervision	.48	.07	-.61	-.35
Academic	.06	.06	-.18	0.5

Significant differences in bold; SED = Standard Error of the Difference

Table E5.9 *Differences in Strategies for Coping with Difficult Sums at School, by Gender*

	Gender	Mean Score*	SE	Diff from 'Male'	SED	95% CI	
Ask teacher	Male	2.18	.04	.01	.08	-.14	.17
	Female	2.19	.08				
Leave it & go on	Male	2.62	.04	.20	.05	.10	.31
	Female	2.82	.05				
Ask a friend	Male	2.24	.05	.13	.06	.02	.24
	Female	2.37	.05				
Re-read & try again	Male	3.31	.03	.01	.05	-.08	.10
	Female	3.32	.05				
Guess	Male	1.76	.04	.04	.04	-.12	.04
	Female	1.72	.04				

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference
 * 4 = Always; 3 = Sometimes; 2 = Hardly ever; 1 = Never

Table E5.10 *Correlation of Mean Mathematics Scores with Frequency of Implementing Strategies for Coping with Difficult Tasks*

Strategy	r	t	p
Leave it	-.12	5.09	< .01
Ask teacher	-.15	3.99	< .01
Ask friend	-.03	.93	.36
Re-read & try again	.13	4.45	< .01
Guess answer	-.18	6.50	< .01

Table E5.11 *Rotated Component Matrix for Learning-related Factors in Mathematics*

	Factor			
	1	2	3	4
I get good marks in Maths	.72			
I learn Maths quickly	.69			
In my Maths class, I understand most things	.66			
My teacher thinks I'm good at Maths	.66			
I'm just not good at Maths*	.64			
I learn more than most pupils in class	.63			
I look forward to my Maths lesson		.82		
I'm interested in things I learn in Maths		.76		
I like doing problems in Maths		.68		
Learning Maths will help me get good job			.71	
My parents think it's important to do well in Maths			.70	
I make a real effort because I want to do well			.62	
I enjoy working with other pupils in groups				.77
All my friends are good at Maths				.55
In Maths class, I work best when on my own				.47
Alpha	.79	.74	.65	.34

* Item reversed scored

Factor 1: *Self-efficacy in Maths*; Factor 2: *Enjoyment of Maths*; Factor 3: *Motivation for Maths*

6. Home Background and Mathematics Achievement

Table E6.1 *Percentage of Pupils' Parents Who Lived/Did Not Live at Home*

	% at Home	SE	% Not at Home	SE	Missing	SE
Mother	92.4	.65	3.3	.46	3.3	.58
Father	77.9	1.65	16.3	1.53	5.8	.77
Female Guardian	2.1	.51	82.7	3.09	15.2	2.93
Male Guardian	3.7	.59	81.3	3	15.0	2.91

Table E6.2 *Mean Mathematics Achievement Scores, by Family Structure*

Family structure	%	Score	SE	Diff from 'nuclear'	SED	95%CI	
Nuclear	81.06	255.5	2.59	-	-	-	-
Single	14.90	236.0	3.72	-19.5	4.60	10.29	28.64
Missing	4.04	211.0	5.82	-44.5	6.18	32.11	56.79

*Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference*

Table E6.3 *Mean Mathematics Achievement Scores, by Ordinal Position of Pupils in Their Family*

Position in Family	%	Score	SE	Diff from 'First'	SED	95% CI	
First	35.6	252.3	3.40	-	-	-	-
Second	30.5	257.4	3.08	5.13	3.58	-11.8	1.58
Third	16.3	248.3	3.60	-3.97	5.04	-6.1	14.04
Fourth or lower	13.6	246.5	4.51	-5.80	4.45	-3.09	14.7
Missing	4.0	210.7	5.99	-41.64	7.31	27.04	56.25

*Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference*

Table E6.4 *Mean Mathematics Achievement Scores, by Combined Parents' Employment Status*

Employment status	%	Score	SE	Diff from 'paid'	SED	95%CI	
In paid employment	85.1	256.2	2.47	-	-	-	-
Not in paid employment	8.6	219.9	3.15	-36.26	3.77	28.72	43.79
Missing	6.3	219.9	4.67	-36.29	5.59	25.13	47.44

*Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference*

Table E6.5 Mean Mathematics Achievement Scores, by Parents' Employment Status

Employment Status	%	Score	SE	Diff from FT work	SED	95% CI	
FT work	77.0	258.1	2.36	-	-	-	-
PT work	8.2	237.6	4.68	-20.6	3.74	13.09	28.02
Not working	2.4	217.5	6.58	-40.6	6.85	26.94	54.3
Home duties	4.1	217.7	5.43	-40.4	5.56	29.30	51.5
Other	2.1	227.0	6.48	-31.1	7.08	16.97	45.23
Missing	6.3	219.9	4.48	-38.3	5.64	27.00	49.51

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.6 Mean Mathematics Achievement Scores, by Father/Male Guardian's Employment Status

Employment Status	%	Score	SE	Diff from FT work	SED	95% CI	
FT work	72.7	258.6	8.31	-	-	-	-
PT work	3.3	246.9	8.28	-11.72	6.42	-1.10	24.54
Not working	2.8	218.9	6.13	-39.7	5.97	27.78	51.62
Home duties	1.2	224.2	8.28	-34.44	8.67	17.12	51.76
Other	2.2	233.8	8.31	-24.85	8.59	7.69	42.00
Missing	17.9	228.4	3.00	30.20	3.27	18.74	31.50

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.7 Mean Mathematics Achievement Scores, by Mother/Female Guardian's Employment Status

Employment Status	%	Score	SE	Diff from FT work	SED	95% CI	
FT work	21.5	260.6	2.32	-	-	-	-
PT work	33.7	257.1	3.75	-3.49	3.28	-3.07	10.05
Not working	1.8	238.0	9.65	-22.66	9.66	3.38	41.94
Home duties	27.4	248.2	3.42	-12.43	2.96	6.52	18.35
Other	3.1	242.9	5.57	-17.69	5.92	5.87	29.51
Missing	12.5	226.2	3.19	-34.44	3.70	27.04	41.83

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.8 Mean Mathematics Achievement Scores, by Parents' Socioeconomic Group

SEG	%	Score	SE	Diff from Upper	SED	95% CI	
High	30.2	270.2	1.83	-	-	-	-
Middle	21.3	259.2	2.72	-11.0	2.51	6.00	16.04
Low	34.9	240.6	3.70	-29.6	3.24	23.09	36.03
Missing	13.7	220.9	3.33	-49.3	3.67	41.91	56.59

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.9 Mean Mathematics Achievement Scores at Key Percentile Benchmarks, by SEG

Percentile	SEG	Diff with Upper	SED	95% CI	
10 th	Lower	40.38	4.87	30.66	50.10
	Middle	13.75	6.14	1.48	26.01
25 th	Lower	34.63	3.56	27.51	41.75
	Middle	14.68	3.57	7.54	31.81
50 th	Lower	30.05	3.68	22.7	37.39
	Middle	21.24	4.19	3.87	20.60
75 th	Lower	26.52	4.42	17.7	35.35
	Middle	7.87	3.89	.10	15.65
90 th	Lower	22.05	5.87	10.33	33.77
	Middle	9.42	9.5	-1.55	20.44

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.10 Mean Mathematics Achievement Scores, by Parents' Involvement

	%	Score	SE	Difference	SED	95% CI	
Participation in Parenting Programme				Diff from 'yes'			
Yes	2.5	228.9	4.87	-	-	-	-
No	93.0	253.2	2.43	24.31	5.57	-35.42	-13.19
Missing	4.5	211.8	5.04	-17.12	5.84	5.46	28.78
Have you attended meeting this year				Diff from 'yes'			
Yes	85.5	254.4	2.26	-	-	-	-
No	5.7	224.0	8.11	30.42	7.78	14.9	45.94
No Meeting	3.9	257.1	11.79	2.68	11.18	-25.01	19.66
Missing	5.0	213.4	5.19	41.02	5.13	30.79	51.26
Frequency of meetings attended				Diff from 'none'			
None	69.9	263.0	2.04	-	-	-	-
Once/Twice	21.0	227.4	3.79	35.59	3.44	28.73	42.46
Three/Four	3.7	203.6	7.33	59.44	6.69	46.07	72.81
Five or more	0.9	213.7	10.13	49.26	10.85	27.59	70.93
Missing	4.6	216.4	5.03	46.62	5.03	36.58	56.66

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.11 *Mean Self-efficacy and Enjoyment of Mathematics Scores, by Parents' Involvement*

	Self-efficacy		Enjoyment	
	Mean	SE	Mean	SE
Participate in Parenting Programme				
Yes	.15	.11	.26	.17
No	.00	.04	-.02	.05
Missing	-.52	.36	.23	.13
Attend PT meeting this year				
Yes	.05	.04	-.03	.05
No	-.39	.21	.07	.13
No Meeting	-.3	.19	.32	.24
Missing	-.69	.51	.26	.02
No. attended (not formal P-T)				
None	.11	.04	-.02	.05
Once/ Twice	-.3	.09	.01	.07
Three/Four	-.3	.17	.05	.17
Five or more	-.52	.4	.27	.31
Missing	-.06	.22	.09	.17

Table E6.12 *Mean Self-efficacy and Enjoyment of Mathematics Scores, by Parents' Involvement*

	Mean	SE	Diff from 'yes'	SED	95%	
Participate in Parenting Programme						
Yes	.15	.11	-	-	-	-
No	.00	.04	.15	.11	-.08	.37
Missing	-.52	.36	.67	.38	-.09	1.44
School Hold P-T Meetings						
Yes	.02	.04	-	-	-	-
No	-.24	.18	.26	.08	-.10	.62
Missing	-.72	.23	.74	.23	.28	1.19
Attend PT meeting this year						
Yes	.05	.04	-	-	-	-
No	-.39	.21	.44	.21	.02	.87
No Meeting	-.3	.19	.35	.19	-.03	.73
Missing	-.69	.51	.73	.5	-.26	1.73
No. attended (other than formal P-T meetings)			Diff from 'none'			
None	.11	.04	-	-	-	-
Once/ Twice	-.3	.09	.41	.10	.20	.60
Three/Four	-.3	.17	.42	.18	.07	.77
Five or more	-.52	.4	.64	.40	-.15	1.43
Missing	-.06	.22	.18	.22	-.27	.62

Significant differences in bold; SE = Standard Error; SED = Standard Error of the Difference

Table E6.13 *Mean Enjoyment of Mathematics Scores for Pupils, by Parental Involvement*

	Mean	SE	Enjoyment Diff from 'yes'	SED	95%CI	
Participate in Parenting Programme						
Yes	.26	.17	-	-	-	-
No	-.02	.05	.27	.12	.03	.51
Missing	.23	.13	.03	.16	-.28	.34
School Hold P-T Meetings						
Yes	-.02	.05	-	-	-	-
No	.31	.34	.33	.34	-1.0	.35
Missing	-.15	.35	.15	.34	-.54	.81
Attend PT meeting this year						
Yes	-.03	.05	-	-	-	-
No	.07	.13	.10	.12	-.34	.15
No Meeting	.32	.24	.36	.24	-.83	.12
Missing	.26	.02	.29	.21	-.07	0.12
No. attended (other than formal P-T meetings)			Diff from 'none'			
None	-.02	.05	-	-	-	-
Once/Twice	.01	.07	.04	.07	-.17	.10
Three/Four	.05	.17	.07	.16	-.39	.26
Five or more	.27	.31	.29	.31	-.90	.32
Missing	.09	.17	.11	.17	-.45	.23

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.14 *Parents' Level of Satisfaction with Child's Performance, by Key Content Areas*

Content Area	n	V. Satisfied	Satisfied	Dissatisfied	V. Dissatisfied
Number Facts	3854	42.2	49.9	6.9	1.0
Computation	3825	43.2	49.8	6.2	.9
Measures	3648	30.2	59.5	9.3	1.0
Problem-solving	3716	27.6	55.7	15.0	1.7
Shape/Space	3430	30.5	57.6	10.4	1.5
Data/Chance	2863	25.1	56.4	16.1	2.3

(In computing mean satisfactory ratings, the 'Don't Know' option was excluded)

Table E6.15 *Parents' Level of Satisfaction with Child's Performance, by Key Content Areas*

Content Area	Mean	SE	Missing (%)
Number Facts	3.3	0.02	7.6
Computation	3.3	0.02	8.3
Measures	3.2	0.02	12.5
Problem-solving	3.1	0.02	10.9
Shape/Space	3.1	0.02	17.8
Data/Chance	3.0	0.03	31.4

(In computing mean satisfactory ratings, the 'Don't Know' option was excluded)

Table E6.16 *Pupils' Mean Mathematics, Self-efficacy, and Motivation Scores, by Parents' Level of Satisfaction with Child's Progress.*

Mathematics Achievement							
Satisfaction	%	Mean	SE	Diff from 'high'	SED	95%CI	
High	36.0	274.4	2.08	-	-	-	-
Medium	28.6	251.8	2.41	22.6	2.26	18.08	27.09
Low	30.6	228.2	3.04	46.2	2.45	41.28	51.08
Missing	4.7	211.1	5.40	63.3	5.16	52.97	73.59
Self-Efficacy							
High	36.0	.3	.05	-	-	-	-
Medium	28.6	-.07	.05	.37	.07	.24	.50
Low	30.6	-.29	.07	.59	.07	.44	.73
Missing	4.7	-.51	.21	.81	.22	.37	1.25
Motivation							
High	36.0	.06	.06	-	-	-	-
Medium	28.6	-.07	.05	.13	.06	.01	.24
Low	30.6	-.01	.05	.07	.06	-.06	.19
Missing	4.7	.04	.26	.02	.27	-.52	.55

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.17 *Mean Mathematics Achievement and Self-efficacy Scores, by Parents' Perceptions of Their Child's Position in Mathematics Class*

Mathematics Achievement							
Class Position	%	Mean	SE	Diff from 'top'	SED	95%CI	
Top	43.8	279.8	2.34	-	-	-	-
Middle	36.4	239.0	2.66	40.7	2.57	36.60	45.86
Bottom	9.0	194.0	6.02	85.8	5.52	74.74	96.79
Unsure	5.6	222.7	4.33	57.6	4.20	49.22	66.00
Missing	5.2	217.6	5.54	62.1	5.47	51.25	73.07
Self-Efficacy							
Top	43.8	.36	.04	-	-	-	-
Middle	36.4	-.20	.05	.55	.04	.49	.62
Bottom	9.0	-.81	.14	1.17	.16	.85	1.48
Unsure	5.6	-.32	.13	.67	.14	.40	.95
Missing	5.2	.08	.21	.28	.22	-.17	.72

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.18 Mean Mathematics Achievement Scores, by Level of Parents' Support

Supportive	%	Mean	SE	Diff from 'Very'	SED	95% CI	
Very	63.68	263.9	2.10	-	-	-	-
Somewhat	27.39	231.1	3.66	-32.8	3.59	25.62	39.97
Not	4.5	201.1	3.76	-62.8	3.40	56.03	69.60
Unsure	3.56	230.4	9.68	-33.5	10.01	13.52	53.50
Missing	.88	252.3	15.53	-11.6	15.53	-19.43	42.59

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.19 Mean Mathematics Achievement Scores of Pupils, by Parents' Frequency of Engaging in Mathematics-Related Activities

Games Involving Maths							
Frequency	%	Mean	SE	Diff from 'never'	SED	95%CI	
Very Often	12.77	261.01	5.57	20.35	4.16	-28.66	-12.05
Sometimes	64.36	255.95	2.23	15.29	4.57	-24.41	-6.16
Never	12.52	240.66	4.24	-	-	-	-
Missing	10.34	218.1	3.26	22.56	3.84	14.90	30.22
Estimating Cost & Change							
Very Often	26.32	251.71	3.4	1.26	2.85	-6.95	4.43
Sometimes	50.74	256.37	2.33	5.92	3.57	-13.05	1.22
Never	10.20	250.45	3.7	-	-	-	-
Missing	12.74	226.76	4.17	23.69	4.53	14.64	32.74
Reading Timetables							
Very Often	12.00	239.67	5.62	21.44	5.51	10.44	32.43
Sometimes	36.37	254.49	2.39	6.62	3.06	.51	12.74
Never	32.98	261.11	3.17	-	-	-	-
Missing	18.65	232.36	3.41	28.75	3.90	20.96	36.54
Reading Maps							
Very Often	5.61	270.2	3.75	24.92	4.41	-33.72	-16.12
Sometimes	44.01	263.88	2.62	18.61	3.06	-24.72	-12.49
Never	30.39	245.27	3.07	-	-	-	-
Missing	19.99	244.8	3.83	20.48	4.04	12.41	28.54
Working with Quantities							
Very Often	8.03	262.86	4.37	14.63	4.85	-24.31	-4.95
Sometimes	51.93	258.31	2.66	10.08	3.86	-17.79	-2.37
Never	21.08	248.23	3.44	-	-	-	-
Missing	18.96	227.81	3.31	20.43	3.29	13.86	26.99

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.20 Mean Mathematics Achievement Scores, by Availability of Resources in Pupils' Homes

	%	Score	SE	Diff with 'Yes'	SED	95%CI	
Internet Access							
Yes	46.1	266.0	2.16	-	-	-	-
No	49.9	239.9	2.6	26.04	2.22	21.61	30.47
Missing	4.0	210.8	5.97	55.19	6.17	42.87	67.51
Study Area							
Yes	84.6	255.2	2.32	-	-	-	-
No	10.7	232.0	4.76	23.17	4.19	14.80	31.54
Missing	4.6	214.2	5.27	40.93	5.46	30.02	51.85
Calculator							
Yes	73.9	255.5	2.45	-	-	-	-
No	19.6	243.2	3.6	12.27	3.17	5.95	18.59
Missing	6.5	220.0	4.49	35.45	4.71	26.04	44.86

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.21 Mean Mathematics Achievement Scores, by Availability of Resources in Pupils' Homes

	%	Score	SE	Diff with Yes	SED	95%CI	
Computer/PC							
Yes	77.4	256.9	2.18	-	-	-	-
No	16.3	232.7	4.19	24.12	3.67	16.79	31.45
Missing	6.3	222.5	3.84	34.36	4.29	25.80	42.91
Games Console							
Yes	84.0	251.4	2.64	-	-	-	-
No	10.6	255.5	2.77	4.16	3.55	-11.25	2.94
Missing	5.4	232.0	5.45	19.34	5.66	8.04	30.65
TV							
Yes	96.2	251.6	2.43	-	-	-	-
No	.3	262.6	21	11.02	20.98	-52.93	30.89
Missing	3.5	227.3	6.9	24.23	7.61	9.14	39.55
Video/DVD							
Yes	93.3	252.1	2.48	-	-	-	-
No	2.2	241.9	5.3	10.12	5.64	-1.14	21.37
Missing	4.6	228.9	5.65	23.17	6.11	10.98	35.37

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.22 Mean Mathematics Achievement Scores of Pupils, by Availability of Resources in Pupils' Bedrooms

	%	Score	SE	Diff with Yes	SED	95%CI	
Computer/PC							
Yes	12.8	234.8	3.04	-	-	-	-
No	70.0	256.2	2.26	21.40	2.89	-27.16	-15.64
Missing	17.3	240.8	3.69	6.08	3.87	-13.81	1.66
Games Console							
Yes	44.4	242.7	3.25	-	-	-	-
No	46.6	260.5	2.32	17.80	3.41	-24.64	-10.99
Missing	9.1	240.8	4.73	1.89	5.03	-8.16	11.94
TV							
Yes	53.9	241.5	2.94	-	-	-	-
No	40.1	264.8	2.25	23.31	3.27	-29.85	-16.78
Missing	6.0	239.7	4.71	1.83	5.39	-8.93	12.59
Video/DVD							
Yes	33.0	238.3	2.81	-	-	-	-
No	54.4	260.1	2.15	21.88	2.62	-27.11	-16.65
Missing	12.6	243.1	4.06	4.84	4.68	-14.2	4.51

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.23 *Mean Mathematics Achievement Scores, by Time Spent on Various Activities before and after School each Day*

	%	Score	SE	Diff with 'None'	SED	95%CI	
Television							
None	38.6	245.6	2.65	-	-	-	-
Up to 1 Hour	41.9	258.0	2.89	12.45	3.23	-18.91	-6.00
1 - 2 Hours	16.2	248	5.2	2.41	5.83	-14.05	9.23
2-3 Hours	0.0	-	-	-	-	-	-
Missing	3.33	232.7	6.04	12.94	6.16	.63	25.25
Computer Games							
None	69.9	254.3	2.11	-	-	-	-
Up to 1 Hour	19.3	250.7	4.49	3.61	3.98	-4.33	11.56
1 - 2 Hours	7.2	227.0	4.37	27.34	4.17	19.02	35.67
2-3 Hours	0.0	-	-	-	-	-	-
Missing	3.6	229.9	6.58	24.44	6.98	10.49	38.38
Home Chores							
None	11.3	238.2	4.71	-	-	-	-
Up to 1 Hour	57.7	256.9	2.45	18.69	3.67	-26.03	-11.36
1 - 2 Hours	21.9	250.0	3.99	11.80	5.38	-22.55	-1.04
2-3 Hours	5.3	228.1	3.01	10.07	7.16	-4.23	24.37
Missing	3.8	230.8	7.17	7.38	8.47	-9.53	24.29
Maths Study							
None	2.1	189.5	13.9	-	-	-	-
Up to 1 Hour	85.2	255.6	2.20	66.10	13.78	-93.61	-38.59
1 - 2 Hours	8.8	228.6	4.25	39.12	15.84	-70.75	-7.5
2-3 Hours	.7	209.6	7.85	-20.04	16.11	-52.21	12.14
Missing	3.2	232.1	7.2	42.55	15.41	-73.31	-11.78
Other Study							
None	2.3	210.9	11.34	-	-	-	-
Up to 1 Hour	69.4	255.3	2.43	44.37	10.98	-66.30	-22.45
1 - 2 Hours	23.0	244.7	2.71	33.81	11.12	-56.03	-11.60
2-3 Hours	1.8	234.4	14.47	23.48	20.98	-65.37	18.42
Missing	3.6	236.5	6.71	-25.61	13.51	-52.59	1.36
Sport							
None	5.6	238.2	6.67	-	-	-	-
Up to 1 Hour	19.5	250.9	4.14	12.69	6.08	-24.82	-.560
1 - 2 Hours	41.4	259.4	2.36	21.15	6.84	-34.81	-7.50
2-3 Hours	29.1	242.7	2.94	4.45	6.85	-18.12	9.22
Missing	4.3	238.0	5.61	.23	9.04	-17.83	18.29
Reading							
None	19.2	233.1	3.97	-	-	-	-
Up to 1 Hour	50.4	255.8	2.32	22.75	3.43	-29.61	-15.90
1 - 2 Hours	21.4	256.9	3.25	23.86	4.30	-32.44	-15.27
2-3 Hours	5.5	252.7	7.06	19.65	8.89	-37.40	-1.89
Missing	3.6	235.2	6.39	2.17	6.69	-15.53	11.19
Extra Classes							
None	38.1	247.8	2.97	-	-	-	-
Up to 1 Hour	17.1	248.5	4.23	.66	4.04	-8.72	7.40
1 - 2 Hours	31.7	258.1	2.49	10.27	3.4	-17.06	-3.48
2-3 Hours	8.5	251.0	6.22	3.22	6.0	-15.20	8.76
Missing	4.6	233.2	5.91	14.57	6.61	1.37	27.78

Significant differences in bold; SE = Standard Error; SED = Standard Error of the Difference

Table E6.24 Mean Mathematics Achievement Scores, by Frequency of Homework

Freq. of Homework	%	Score	SE	Diff from 'Everyday'	SED	95% CI	
Hardly ever/never	2.2	247.3	18.05	3.25	17.81	-38.82	32.31
Once/twice/week	7.5	245.2	16.01	1.14	16.43	-33.95	31.67
Three/four/week	57.0	256.4	2.53	12.37	4.38	-21.1	-3.63
Every day	30.2	244.0	4.38	-	-	-	-
Missing	3.0	229.1	7.69	14.93	9.04	-3.13	32.99

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.25 Mean Mathematics Achievement Scores, by Time Spent on Homework

Time Homework	%	Score	SE	Diff from '5 mins'	SED	95% CI	
Approx. 5 mins.	8.9	274.85	4.15	-	-	-	-
Approx. 15 mins.	58.9	258.27	2.42	-16.57	4	8.59	24.55
Approx. 30 mins.	22.2	234.83	3.10	-40.01	4.71	30.62	49.41
Approx. 1 hour	4.0	230.58	8.97	-44.26	10.01	24.14	64.39
More than 1 hour	0.8	218.65	9.01	-56.19	10.16	35.89	76.49
Missing	5.2	213.62	4.59	-61.22	5.08	49.63	72.81

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.26 Percentages of Parents Spending Varying Amounts of Time Helping Children with Homework and Mean Mathematics Achievement Scores

Time Homework	%	Score	SE	Diff from 'None'	SED	95% CI	
None	10.4	287.2	4.37	-	-	-	-
A few mins.	41.1	266.3	2.22	20.94	5.32	10.32	31.56
Approx. 15 mins.	28.9	239.4	3.13	47.83	5.45	36.95	58.72
30 – 60 mins.	13.4	215.2	4.43	71.99	7.26	57.49	86.49
More than 1 hour	1.3	211.3	7.01	75.88	8.71	58.48	93.28
Missing	5.0	219.1	5.41	68.09	6.71	54.69	81.5

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.27 Mean Maths Achievement Scores, by the Specific Homework Areas in Which Parents Provided Assistance

	%	Score	SE	Diff with 'Help'	SED	95%CI	
Memorising Tables							
Help	50.6	251.3	2.61	-	-	-	-
No Help	40.9	253.2	2.91	1.87	2.29	-6.46	2.72
Missing	8.5	235.7	4.89	15.58	5.50	4.59	26.57
Computation							
Help	40.5	240.0	3.23	-	-	-	-
No Help	48.8	261.2	2.51	21.16	2.99	-27.13	-15.19
Missing	10.7	244.3	4.88	4.33	5.74	-15.79	7.14
Word Problems							
Help	53.4	246.2	2.45	-	-	-	-
No Help	38.1	259.7	3.09	13.52	2.18	-17.88	-9.16
Missing	8.5	239.3	5.19	6.94	5.57	-4.18	18.06
Maths Concepts							
Help	39.2	247.4	3.18	-	-	-	-
No Help	49.9	255.5	2.71	8.11	2.82	-13.75	-2.47
Missing	10.9	241.3	4.31	6.05	5.29	-4.52	16.61

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E6.28 Mean Mathematics Achievement Scores, by Level of Parents' Satisfaction with Child's Progress

Satisfaction	%	Score	SE	Diff with 'High'	SED	95%CI	
High	35.9	274.4	2.96	-	-	-	-
Med	27.8	252.6	2.52	21.79	2.34	17.12	26.46
Low	31.8	228.3	2.06	46.11	2.38	41.36	50.86
Missing	4.5	210.2	5.43	64.19	5.36	53.49	74.89

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

7. Classroom Environment and Mathematics Achievement

Table E7.1 *Percentages of Pupils Taught by Male or Female Teachers, by Pupil Gender*

Gender	Female Teachers		Male Teachers	
	%	SE	%	SE
Girls	83.3	4.22	16.7	4.23
Boys	72.2	5.03	27.8	5.03
All	77.6	3.98	22.4	3.98

(*N*=4171)

Table E7.2 *Percentages of Pupils Taught by Teachers With Varying Levels of Teaching Experience*

	N	%	SE
1-5 years	1341	32.6	4.73
6-10 years	530	12.9	3.30
11-15 years	354	8.6	2.02
16-20 years	600	14.6	4.51
21-25 years	398	9.7	2.11
26-30 years	410	10.0	2.39
More than 30 years	482	11.7	3.59

Table E7.3 *Percentages of Pupils Taught by Teachers Holding Various Qualifications*

Qualification	N	%	SE
Diploma for National Teaching (NT)	954	22.9	4.46
B. Ed. degree	2687	64.6	5.02
Primary/Under-graduate degree other than B.Ed.	985	23.7	3.91
Postgraduate Diploma in Education (primary) (or equivalent)	593	14.3	2.73
Higher Diploma in Education (H. Dip.) (post-primary)	470	11.3	2.55
Diploma in Remedial / Special Education / Learning Support	207	5.0	1.73
Masters in Education (e.g., M.A. (Education), M.Ed.)	225	5.4	2.68
Other qualification (e.g., diploma, certificate, post-grad degree)	286	6.9	2.48
Primary school teaching qualification		93.6	2.26

Table E7.4 *Percentages of Pupils Taught in Single- and Multi-grade Classes*

	N	%	SE
Single-grade	2568	61.6	4.42
Two grades	970	23.3	4.07
Three grades	434	10.4	4.09
Four grades	139	3.3	1.97
Five grades	60	1.4	1.44
Multi-grade (total)	1603	38.4	4.42

Table E7.5 *Mean Class Size in Single- and Multi-grade Classes – All Pupils and Pupils in Fourth Class, By School Designated Disadvantaged Status*

	N	%	SE	Std. Dev	Range
Class Type					
Single-grade Fourth classes	2568	27.3	0.52	4.63	15-35
Fourth classes in Multi-grade	1603	12.9	0.97	5.70	3-28
All pupils in Multi-grade class	1603	27.0	1.07	5.42	13-37
All pupils – all classes	4171	27.2	0.52	4.95	13-37
Designated Schools					
Single-grade Fourth classes	551	22.7	0.79	3.41	17-30
Fourth class pupils in Multi-grade	18	13.9	0.0	3.37	6-16
All pupils in multi-grade classes	18	23.9	0.0	4.46	17-37
All pupils – all classes	559	22.7	0.79	3.45	17-30
Non-Designated Schools					
Single-grade Fourth classes	2017	28.6	0.49	4.06	3-35
Fourth classes in Multi-grade	1585	12.9	0.97	5.72	3-28
All pupils in multi-grade classes	1585	27.1	1.97	5.42	13-37
All pupils – all classes	3602	27.9	0.49	4.77	13-37

Table E7.6 *Mean Number of Days of ICD in Mathematics Attended by Teachers*

	PCSP Courses			Other Courses		
	N	Mean	SE	N	Mean	SE
Attended in Past 5 Years*	3890	2.41	0.14	4141	0.62	0.67
Attended in Past 12 Months	3801	0.34	0.10	3835	0.20	0.13

*Excludes pupils taught by teachers with fewer than 5 years teaching experience

Table E7.7 Percentages of Pupils Whose Teachers Did Not Attend ICD

	PCSP Courses			Other Courses		
	N	%	SE	N	%	SE
Attended in Past 5 Years*	2861	7.8	3.61	2846	87.9	3.66
Attended in Past 12 Months	3801	75.8	5.01	3835	93.2	1.69

*Excludes pupils taught by teachers with fewer than 5 years teaching experience

Table E7.8 Percentages of Pupils Whose Teachers Reported Varying Levels of Satisfaction With the Amount and Quality of PCSP ICD Courses

	N	Very Satisfied		Satisfied		Dissatisfied		Very dissatisfied	
		%	SE	%	SE	%	SE	%	SE
Amount of ICD	3302	14.8	4.71	66.3	5.06	17.7	4.54	1.3	0.75
Quality of ICD	3302	23.4	6.18	68.4	6.54	7.7	2.44	0.5	0.50
Cuiditheoiri Service	2183	40.2	6.78	52.9	6.64	6.2	2.11	0.7	0.51

*where applicable

Table E7.9 Percentages of Pupils Whose Teachers Reported Varying Degrees of Satisfaction with the Amount of ICD Provided on Various Mathematics Content Strands and Skills

Content Area	N	Too Little		Adequate / Sufficient		Too Much	
		%	SE	%	SE	%	SE
Number	3302	8.7	3.10	91.0	2.13	0.3	0.27
Algebra	3302	22.1	5.27	77.9	5.27	0.0	0.0
Space and Shape	3302	28.8	5.86	71.2	5.86	0.0	0.0
Measurement	3197	19.8	5.01	79.9	5.02	0.4	0.37
Data and Chance	3224	20.6	4.31	78.5	4.41	1.0	0.68
Process							
Recall	3302	20.6	5.29	77.2	5.88	2.2	2.22
Implement	3302	26.2	5.99	73.8	5.99	0.0	
Reason	3302	36.9	4.54	62.7	4.56	0.4	0.41
Connect	3302	19.2	6.12	80.2	6.13	0.7	0.47
Solve Problems	3302	37.1	5.28	62.0	5.32	0.9	0.69
Communicate/Express	3302	38.7	4.57	60.0	4.59	1.3	0.81

Table E7.10 Percentages of Pupils Whose Teachers Indicated Varying Levels of Satisfaction with the Coverage of Selected Topics in ICD Provided by the PCSP

	N	Too little		Adequate / Sufficient		Too much	
		%	SE	%	SE	%	SE
Classroom-based assessment of mathematics	3165	45.5	6.39	54.1	6.40	0.4	0.38
Identifying learning difficulties in mathematics	3181	59.9	6.54	40.1	6.54	0.0	0.0
Interpreting standardised test scores in mathematics	3165	59.5	6.13	40.5	6.13	0.0	0.0
Engaging pupils in group activities	3155	17.0	3.81	79.7	4.35	3.3	1.93
Approaches to teaching mathematics	3172	15.6	4.01	83.2	4.11	1.2	0.78
Using ICT to teach mathematics	3195	77.3	5.64	20.2	5.59	2.5	1.23
Grouping children for mathematics	3195	52.1	5.79	47.5	5.82	0.3	0.34
Use of calculators to teach mathematics	3195	24.3	4.15	74.9	4.14	0.8	0.58

N = 3302 (pupils of teachers who indicated attending some PCSP in-career development in last 5 years)

Table E7.11 Percentages of Pupils Whose Teachers Indicated Varying Levels of Satisfaction with ICD and Pre-Service Training in Mathematics

	In-career Development			Pre-service Training		
	N	%	SE	N	%	SE
Very Satisfied	314	9.6	4.26	395	14.7	4.88
Satisfied	1106	33.8	5.78	922	34.4	4.59
Fairly Satisfied	1607	49.2	6.46	870	32.2	6.17
Dissatisfied	213	6.5	2.30	333	12.4	4.65
Very Dissatisfied	28	0.8	0.59	163	6.1	2.32

*N*s (before missingness): 3302 pupils were taught by teachers who had attended some ICD provided by the PCSP in the past 5 years; 3902 pupils were taught by teachers who had a primary teaching qualification.

Table E7.12 Mean Number of Minutes Per Week Spent on Teaching Mathematics in Fourth Class in Single and Multi-Grade Classes, by Designated Disadvantaged Status

	N	Mean	SE	SD	Range
Designated	560	211.1	11.88	46.90	120– 300
Non- Designated	3518	217.2	8.68	57.36	60 – 330
Single Grade Class	2535	220.7	5.04	41.85	120 – 300
Multi-Grade Class	1543	209.3	19.4	73.17	60 – 330
Total	4078	216.4	7.43	56.07	60 – 330

Table E7.13 Percentages of Time Allocated to Various Activities in Mathematics Lessons, by Class Type and Designated Disadvantaged Status

	N	Management %	SE	Administration %	SE	Instruction %	SE
All Classes	3917	8.7	0.80	8.3	0.66	83.0	1.27
Single Grade	2356	9.0	0.84	8.3	0.83	82.7	1.49
Multi-Grade	1560	8.2	1.06	8.3	1.51	83.5	2.06
Designated	470	12.6	1.66	8.9	1.59	78.6	2.34
Non-Designated	3446	8.2	0.74	8.2	0.89	83.6	1.42

Table E7.14 Mean Frequency of Usage of Various Resources for Teaching Mathematics, and Percentage of Pupils Whose Teachers Report Usage with Various Frequencies

	N	Mean**		Every day*		Once/twice a week		Once/twice a month		Hardly Ever or Never	
		%	SE	%	SE	%	SE	%	SE	%	SE
Textbooks	4140	3.95	0.13	95.5	2.21	4.0	2.17	0.4	0.41	0.0	0.0
Tablebooks	4079	3.1	0.26	5.0	5.49	32.3	5.47	11.5	2.71	11.1	3.57
Workbooks/sheets	4084	2.8	0.22	20.4	3.59	47.3	5.15	26.6	5.24	5.8	2.23
Concrete materials	4104	2.6	0.27	8.7	2.96	42.8	4.94	44.4	4.21	4.1	1.34
Calculators	4085	1.9	0.14	4.7	2.93	17.4	3.88	44.5	4.59	33.4	4.04
Computers	4018	1.6	0.35	2.7	2.1	15.2	4.18	26.4	4.18	55.7	5.74
Other	538	.52	0.35	28.8	137.8	20.8	10.02	23.7	10.07	26.7	10.29

*Percentage of all cases (N = 4171); **Based on four-point scale: 4 – every day/almost every day; 3 – once or twice a week; 2 – once or twice a month; 1 – never or hardly ever.

Table E7.15 Percentages of Pupils Whose Teachers Reported that Various Types of Software had Encountered During Mathematics Classes

ICT Resource	%	SE
Software to provide practice on Mathematics facts/skills	49.9	5.22
Software that tutors mathematics concepts	41.8	5.11
Software that engages pupils in higher-level thinking	7.2	2.24
Software that provides practice in data handling	22.7	4.87
Adventure games that involve mathematics	31.6	4.69
Internet resources for learning mathematics	16.1	4.47

N = 4157 (all items)

Table E7.16 Percentages of Pupils Whose Teachers Reported That They Used Calculators For Various Purposes

	Mean		Daily		Weekly		Monthly		Hardly Ever	
	%	SE	%	SE	%	SE	%	SE	%	SE
Routine computation	1.7	0.10	3.3	2.81	10.5	2.71	34.1	4.06	52.2	5.06
Checking answers	1.9	0.10	5.5	2.91	16.7	4.21	36.5	4.62	41.3	4.64
Exploring number concepts	1.5	0.07	0.5	0.48	3.9	2.17	40.0	5.39	55.6	5.51
Solving problems	1.5	0.07	1.0	0.65	10.4	3.45	30.7	4.82	57.9	5.07
Tests and exams	1.1	0.04	0.0		2.7	1.99	5.5	1.86	91.7	2.69

*Based on four-point scale: 4 – every day/almost every day; 3 – once or twice a week; 2 – once or twice a month; 1 – never or hardly ever. N = 4157

Table E7.17 Percentages of Pupils Whose Teachers Reported in Engaging in Short- And Long-Term Planning, With Varying Degrees of Frequency

	N	Weekly / more often		Fortnightly		Monthly		Less often	
		%	SE	%	SE	%	SE	%	SE
Short-term	4140	40.0	(4.66)	46.9	(4.58)	11.8	(2.78)	1.3	(0.70)
		Monthly / more often		Term by term		Annually		Less Often	
Long-term	4107	13.8	(3.16)	48.2	(4.93)	35.0	(4.66)	3.0	(1.63)

Table E7.18 Frequency with which Teachers Used Various Sources to Obtain Information for Planning Mathematics Lessons

	N	Curriculum Content Statement		Curriculum Teacher Guidelines		Plan Scoile		Textbook (Teacher's Manual)		Textbook (Pupil Edition)		Other Sources	
		%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Deciding topics to teach	4131	16.5	3.79	20.1	4.41	12.9	4.47	19.5	4.08	30.8	5.12	0.2	0.95
Deciding how to present a topic	4131	3.5	1.71	21.7	4.3	4.3	1.93	35.0	5.04	22.1	3.66	13.4	3.65
Selecting problems/ applications for class and homework	4131	0.8	4.8	5.2	2.44	1.7	1.52	17.3	4.19	66.3	4.64	9.2	5.29
Selecting problems and applications for assessment/evaluation	4131	1.6	1.44	7.9	3.66	4.2	1.85	23.6	4.90	23.1	4.69	39.7	5.29

Table E7.19 Percentages of Pupils in Fourth Class Whose Teachers Indicated That They Stayed In The Same Groups For Mathematics Lessons

	N	Always		Sometimes		Never		Not grouped	
		%	SE	%	SE	%	SE	%	SE
Single-grade	2535	7.3	(2.98)	66.1	(5.60)	10.0	(3.82)	16.6	(4.69)
Multi-grade	1459	7.7	(5.14)	74.2	(5.6)	0.9	(0.69)	17.2	(5.85)
All 4th classes	3995	7.5	(2.77)	69.0	(3.84)	6.7	(2.53)	16.8	(3.46)

Table E7.20 Percentages of Pupils in Fourth Class Whose Teachers Indicated Allocating Them to Groups for Mathematics in Various Ways

	N	Similar Ability Groups		Mixed Ability Groups		Similar/Mixed		Not Grouped	
		%	SE	%	SE	%	SE	%	SE
Single-grade	2520	29.7	5.03	50.5	5.0	4.2	2.36	15.6	4.49
Multi-grade	1456	5.5	3.67	70.9	8.06	5.1	3.89	18.4	6.70
All 4th classes	3976	20.9	3.71	58.0	4.32	4.6	0.94	16.6	4.12

Table E7.21 Percentages of Pupils Involved in Whole-Class Instruction, Paired Work, and Conferencing With Their Teacher, With Varying Levels of Frequency

	N	Most		Some		Hardly ever		Never	
		%	SE	%	SE	%	SE	%	SE
Whole 4th class is engaged in the same lesson/activity	4103	84.0	3.24	13.2	3.06	2.0	1.10	0.6	0.42
Large or small groups of pupils in 4th class work together	3987	3.2	1.48	67.3	3.94	24.6	4.27	4.9	2.21
Pairs of 4th class pupils work together	3870	5.5	1.97	68.1	4.62	23.3	4.04	3.2	1.98
Conferencing between teacher and pupil for individual instruction.	4024	43.0	4.49	45.3	5.26	10.7	4.06	0.9	0.71

Table E7.22 Percentages of Pupils Whose Teachers Engaged Them in Various Types of Mathematics Assessment, by Frequency

	Once		Twice		Once/ Term		Once/ Month		Once/ Week		Not Used	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Standardised tests	79.2	3.85	5.0	2.36	0.6	0.59	0.0	0.0	0.0	0.0	14.9	3.25
Teacher-made tests	2.4	1.73	3.8	1.94	26.6	4.69	32.9	4.67	23.5	4.48	10.8	3.67
Teacher checklists*	2.2	1.42	1.2	0.61	16.2	3.52	26.8	3.59	14.9	3.27	38.7	4.80
Teacher observations	2.2	1.20	0.9	0.55	10.4	2.84	19.8	4.13	39.4	5.46	27.3	4.56
Diagnostic tests	4.3	1.52	2.8	1.91	1.6	0.83	1.3	0.92	2.4	1.16	87.6	3.07
Progress tests	2.8	1.48	0.6	0.37	28.5	4.98	28.1	5.31	7.1	2.25	32.9	4.57

N = 4157

Table E7.23 Percentages of Pupils Whose Teacher Indicated Various Levels of Integration between Class and Learning Support /Resource Teaching in Mathematics

	N	Pupils*	
		%	SE
Complete integration	685	24.0	4.22
Some integration	1756	61.4	4.85
A little integration	331	11.6	3.47
No integration	88	3.1	1.77
Not applicable	(1261)	---	---

Includes only classes with at least 1 pupil in receipt learning support or resource teaching in mathematics

Table E7.24 Percentages of Pupils whose Teachers Indicated Varying Levels of Agreement with Statements about School Climate as it Relates to Mathematics

	N	Mean**	Strongly Agree	Agree	Disagree	Strongly Disagree
There is positive attitude towards methodology of 1999 PSMC	3943	3.27	33.2	61.6	4.5	0.6
School has clear set of goals and priorities for teaching maths	3920	3.11	23.0	66.2	10.1	0.8
School resources are used effectively for teaching maths	3925	3.04	18.5	67.7	13.2	0.6
School has clear set of goals and priorities for staff development*	3786	2.89	16.7	57.8	23.1	2.3

**Missingness on this item: 9.2%; **Based on the following scale: 4 = strongly agree; 3 = agree; 2 = disagree; 1 = strongly disagree.*

Table E7.25 Percentages of Pupils Whose Teachers Held Full-time Teaching Positions or Job-Shared

	N	%	SE
Full-time	4083	98.2	0.66
Job-Share	32	0.80	0.55

Table E7.26 Percentages of Pupils whose Teachers Reported Meeting With Other Teachers to Discuss Curriculum or Teaching Approaches in Mathematics

	N	Never		Once/ Twice a Year		Once/ Month or More	
		%	SE	%	SE	%	SE
Meeting for Planning	4107	12.6	3.87	71.0	4.77	16.5	2.57

Table E7.27 Percentages of Pupils Involved in Whole-class Instruction, Paired Work, and Conferencing With Their Teacher, With Varying Levels of Frequency

	N	Always		Sometimes		Never		Not Applicable	
		%	SE	%	SE	%	SE	%	SE
If you teach multigrade class do you group pupils from 4 th class with pupils from other classes?	1556	0.0	0.0	33.7	10.34	65.0	10.39	1.2	1.28

Table E7.28 Percentages of Pupils with Teachers Reporting Varying Levels of Familiarity with the DES Learning Support Guidelines

	%	SE
Very Familiar	16.4	4.90
Somewhat familiar	57.7	5.47
Not familiar	25.9	4.21
Missing	0.0	0.0

(N = 4043)

Table E7.29 Percentages of Pupils whose Teachers Had Contributed/Not Contributed to School Policy on the Provision of Learning Support for Mathematics

	Total %	SE	Available %	SE
Contribute	37.2	5.21	38.0	5.33
Do Not Contribute	60.7	5.29	62.0	5.33
Missing	2.1	1.03	0.0	0.0

Table E7.31 *Percentages of Comments Made by Teachers, by Theme*

Theme	% Comments	Examples
Satisfaction with 1999 PSMC	12.1	<ul style="list-style-type: none"> • New materials, methods a definite improvement • Content alignment better
Class size	10.6	<ul style="list-style-type: none"> • Large class sizes militate against teaching revised curriculum • Revised curriculum doesn't take practicality of teaching a large class into account
Content of Revised Curriculum	9.1	<ul style="list-style-type: none"> • Important elements 'thrown out' • Curriculum too broad • Too many methods for multiplication / division
Resources	9.1	<ul style="list-style-type: none"> • Lack of resources, including calculators a problem • Insufficient resources available to teach PSMC
Textbooks	7.6	<ul style="list-style-type: none"> • Translation of textbooks for senior classes into Irish needed • Textbooks have been 'dumbed down'
NAMA Assessment	7.6	<ul style="list-style-type: none"> • Quantitative assessment of performance may not reflect natural ability • Language used in pupil questionnaire not 'user friendly'
Time for teaching maths	6.1	<ul style="list-style-type: none"> • Work with concrete materials takes too much time • Insufficient time to develop required resources
Multi-grade classes	6.1	<ul style="list-style-type: none"> • Impossible to cover curriculum with multi-grade class • Some topics difficult to link across 4th / 5th classes
Assessment of maths	6.1	<ul style="list-style-type: none"> • Is gá le trialacha caighdeánacha a oireann leis an gCuraclam Matamaitice na Bunscoile 1999 • Continuous assessment recommended in curriculum inappropriate
ICD / Facilitation of Planning	5.9	<ul style="list-style-type: none"> • Facilitator excellent, but insufficient time to appraise resources • ICD should be class-level specific (e.g., combined 3rd/4th)
New-Comer Pupils	4.5	<ul style="list-style-type: none"> • Difficult to teach curriculum to non-nationals with poor language comprehension
Learning Support	3.0	<ul style="list-style-type: none"> • Inadequate support service in school • Insufficient emphasis on identification and remediation of learning difficulties
Curriculum Outcomes	3.0	<ul style="list-style-type: none"> • Pupils enjoy 1999 mathematics curriculum more • Standards dropping – not enough emphasis on tables
Variation in pupil ability	3.0	<ul style="list-style-type: none"> • Too many ability levels in same class
Planning	3.0	<ul style="list-style-type: none"> • Too much paperwork • Lack of time for type of planning needed
Grouping for Instruction	1.5	<ul style="list-style-type: none"> • Uses combination of mixed-ability (measures) and same ability grouping (number)
Home links	1.5	<ul style="list-style-type: none"> • Relevance of mathematics curriculum needs to be stressed more to parents

Table E7.32 Percentages of Pupils who had Varying Numbers of Mathematics Classes per Week, by Class Type

	N	%	SE
Multi-grade			
Three days	49	3.1	3.06
Four days	191	12.0	5.98
Five days	1353	84.9	6.53
Single Grade			
Three days	6	0.2	0.24
Four days	303	11.9	2.58
Five days	2234	87.8	2.57

Table E7.33 Mean Length of Mathematics Lessons in Fourth class, by School Designated Status and Class Type

	N	Mean Minutes	SD	Range
Designated	3578	45.01	10.85	30 - 60
Non- Designated	569	45.4	8.64	30 - 70
Single Grade Class	2554	45.4	8.50	30 - 60
Multi-grade Class	1593	43.3	13.9	12 - 66
Total	4147	45.2	8.84	30 - 70

8. School Variables and Mathematics Achievement

Table E8.1 *Mean Mathematics Achievement, by Schools Size*

Size	%	Mean	SE	Diff with 'Large'	SED	95%CI	
Large	33.0	264.0	3.36	-	-	-	-
Medium	31.7	253.4	3.98	10.56	5.25	.08	21.03
Small	31.4	263.2	2.93	0.81	4.47	-9.75	8.12
Missing	3.8	250.4	-	13.55	-	-	-

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E8.2 *Mean Mathematics Achievement Scores, by Size of Community in which the School was Located*

	%	Score	SE	Diff with City	SED	95%CI	
City	36.7	242.6	3.94	-	-	-	-
Large town	14.0	253.9	5.23	11.37	6.53	-24.42	1.68
Small town	11.3	251.8	3.59	9.21	5.320	-19.80	1.39
Rural area	36.4	257.9	3.49	15.34	5.17	-25.67	-5.01
Missing	1.7	241.4	-1.23	-	-	-	-

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E8.3 *Pupil to Teacher Ratio, by Gender Composition of School*

	Ratio	SE	Diff from 'Mixed'	SED	95%CI	
All Male	1:18.2	.90	2.02	1.09	-.16	4.20
All Female	1:19.1	.79	1.09	1.07	-1.05	3.22
Mixed	1:20.2	.60	-	-	-	-

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E8.4 *Percentage of Pupils who Speak a First Language Other than English or Irish*

	≥ 40	40% - 20%	20% - 10%	10% - 5%	<5%	Missing
% of pupils	1.96	1.87	4.49	6.99	81.22	3.47
SE	.61	1.33	1.43	2.58	3.63	1.70

Table E8.5 *Percentage of Pupils Attending Schools, by Main Language Spoken in Schools and Catchment Area*

	English		Irish		Other		Missing	
	%	SE	%	SE	%	SE	%	SE
City	34.7	4.96	.36	.19	1.21	.43	.42	.12
Large town	13.1	2.58	.15	.07	.45	.11	.27	.13
Small town	11.1	3.28	.02	.02	.12	.10	.12	.08
Rural area	35.1	5.49	.55	.50	.20	.11	.55	.33
Missing	1.6	.94	-	-	.04	.03	.02	.02
Total	95.5	.77	1.09	.53	2.00	.46	1.37	.39

Table E8.6 *Pupil to Teacher Ratio, by Designated School Status*

	Ratio	SE	Diff with 'Disadvantage'	SED	95%CI	
Designated	13.75	.57	-	-	-	-
Non- Designated	20.70	.42	6.96	.73	-8.42	-5.50
Total	19.74	.44	5.99	.72	-7.43	-4.55

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E8.7 *Mean Achievement Scores of Pupils in Receipt of Book Grant, by School Designated Status*

% on Grant	Designated			Non-Designated			Total		
	%	Mean	SE	%	Mean	SE	%	Mean	SE
0-24	3.2	204.5	-	43.8	258.6	2.82	38.2	258.0	2.90
25-49	12.7	264.0	-	24.8	247.6	3.58	23.2	248.9	3.64
50-74	16.3	220.0	-	7.8	244.7	-	8.9	238.6	7.26
75-100	67.9	212.1	5.51	1.9	282.6	-	10.9	222.9	10.88
Missing	0	-	-	21.7	260.4	4.76	18.7	260.4	4.76

Table E8.8 *Percentage of Pupils in Books for Needy Pupils Scheme, by School Designated Status*

% pupils in school on scheme	Designated			Non-Designated			Total		
	%	Mean	SE	%	Mean	SE	%	Mean	SE
<15	-	-	-	32.5	259.2	2.96	28.0	259.2	2.96
15-30	7.0	235.1	-	35.7	254.4	3.43	31.8	253.9	3.41
>30	93.0	218.6	6.23	21.6	247.1	6.71	31.3	235.6	4.83
Missing	-	-	-	10.2	266.9	6.05	8.8	266.9	6.05

*33rd & 67th Percentiles used as cut points

Table E8.9 *Percentage of Pupils Attending Schools with varying Levels of Learning Support Provision in Mathematics, by Class Band*

		None	1– 5%	6– 10%	11–15%	16–20%	+20%	Missing
Junior/ Senior Infants	%	88.8	2.59	.98	-	-	-	7.62
	SE	3.41	1.29	.70	-	-	-	3.14
First/ Second Class	%	67.1	9.46	4.90	6.77	1.54	-	10.29
	SE	4.35	2.66	1.87	2.85	.93	-	3.14
Third/ Fourth Class	%	56.7	16.07	9.93	2.57	3.21	1.65	9.84
	SE	4.92	3.34	2.82	1.25	1.52	1.38	3.33
Fifth/ Sixth Class	%	58.2	13.6	6.4	5.8	.3	.4	15.3
	SE	4.45	3.09	2.31	2.34	.25	.36	4.13

Table E8.10 *Mean Numbers Receiving Learning Support in Mathematics, by Class*

Level	Mean	SE
Junior-Senior Infants	0.33	.16
1-2 class	1.87	.34
3-4 class	2.61	.39
5-6 class	1.99	.28
Total School	6.88	.91

Table E8.11 *Ratio of Learning Support and & Resource Teaching Posts, by Designated School Status*

		Mean	SE	Diff with Designated	SED	95%CI
Designated Disadvantaged	LS posts	276.13	17.91	-	-	-
	RT posts	241.51	87.19	-	-	-
Non-Designated	LS posts	352.80	21.60	76.68	26.72	-130.0
	RT posts	208.67	16.81	-32.83	88.38	-143.68
Total (mean)	LS posts	341.90	19.29	65.77	26.32	-118.34
	RT posts	213.48	18.80	28.03	89.01	-205.78

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E8.12 *Mean Scores of Scales Measuring Problems Identified by School Principals as Affecting Teaching of Mathematics in Schools, by Designated Status*

Designated Status	Problem	%	SE
Most Serious			
Designated	Large classes	21.07	4.59
Non-Designated	Shortage of Learning Support teaching time	39.03	6.43
Total	Shortage of Learning Support teaching time	38.24	5.76
2nd Most Serious			
Designated	Shortage of Learning Support teaching time	24.08	12.93
Non-Designated	Large classes	33.67	6.20
Total	Large classes	29.47	5.25
3rd Most Serious			
Designated	Pupils' lack of interest	19.91	13.95
Non-Designated	Shortage of Learning Support teaching time	19.90	6.18
Total	Shortage of Learning Support teaching time	16.13	4.90

Table E8.13 *Rotated Component Matrix to Identify Problems Experienced by Teachers and Principals*

	Pupil/Parent Disinterest	Physical Resources	Staff Training	Classroom provisions
Pupil lack of interest	.803			
Lack of parental support	.773			
Absenteeism	.767			
Time for teaching maths	.549			
Availability of maths equipment		.795		
Calculator shortage		.730		
Availability of software		.716		
Inadequate in-career training			.799	
Difficulty implementing curriculum			.629	
Inadequate pre-service training			.594	
Shortage of substitute teachers				.755
Shortage of qualified teachers				.648
Inadequate classroom accommodation				.626

Principal Component Analysis; Varimax Rotation

Table E8.14 *Frequency with which Schools Implemented Parental Support Programmes in Mathematics*

	Parent Programme		No Parent Programme		Missing	
	%	SE	%	SE	%	SE
Designated	6.88	2.60	4.85	1.67	1.91	1.48
Non-Designated	11.76	3.44	69.54	5.07	5.07	2.60

Table E8.15 *Mean Mathematics Achievement Score, by Types of Parent Programmes for Mathematics Offered by Schools*

	%	Yes			No		
		%	Score	SE	%	Score	SE
Class for parents on methods taught	11.76	241.5	8.15	86.6	252.2	2.54	
Presentation on the maths curriculum	8.60	252.6	6.34	89.76	250.8	6.34	
Promotion of paired/shared mathematics	5.51	241.4	16.7	92.84	251.5	2.32	
Basic skills maths programme for parents	3.55	211.7	-	94.80	252.4	2.41	

For each, missing constituted 1.65% and the mean score was 241.35 (% too small to compute SE)

Table E8.16 Mean Achievement Scores, Percentage of Pupils Attending Schools with a Parents Association, and Attendance of Teachers at Meetings

	%	Mean Score	SE
Parents' Association			
Yes	83.03	251.86	2.44
No	15.32	245.89	6.92
Missing	1.65	241.35	-
Teachers attend?			
Yes	31.18	251.54	3.45
No	49.00	252.98	3.31
Not Applicable	15.32	245.89	6.92
Missing	4.49	237.95	-

Table E8.17 Mean Mathematics Achievement Scores, by Frequency of Activities Organised by Parents' Association Or Staff to Promote Learning and Mean Achievement Scores

	Parent's Association						School Staff					
	%	Yes Score	SE	%	No Score	SE	%	Yes Score	SE	%	No Score	SE
Book fairs	25.3	250.2	5.06	54.9	253.5	2.69	63.7	251.9	3.25	31.8	250.4	4.03
Fundraising for literacy	58.7	250.0	2.95	21.5	259.0	3.50	34.4	255.0	4.25	61.1	249.3	2.64
Fundraising for maths	15.3	249.5	3.10	36.9	255.8	3.50	21.4	253.6	5.98	74.1	250.7	2.58
School visits by authors	6.96	258.9	6.57	73.2	251.8	2.51	64.5	249.9	2.74	31.0	254.4	4.10
Other literacy activities	7.51	244.1	8.14	72.7	253.3	2.46	52.9	252.5	3.8	42.6	250.0	2.59
Other maths activities	4.3	232.9	-	75.9	253.5	2.82	26.0	251.7	5.48	69.6	251.3	2.70

Significant differences between 'Yes' and 'No' in **bold**; SE = Standard Error

Table E8.18 Activities Organised by Parents' Association Or School Staff to Promote Learning

	Parent's Association		School Staff	
	Yes	No	Yes	No
Book fairs	25.3	54.9	63.7	31.8
Fundraising for literacy materials for school	58.7	21.5	34.4	61.1
Fundraising for maths equipment for school	15.3	36.9	21.4	74.1
School visits by authors	6.96	73.2	64.5	31.0
Other activities related to literacy	7.51	72.7	52.9	42.6
Other activities related to maths	4.3	75.9	26.0	69.6

Table E8.19 *Frequency of Agreement with Statements Relating to the 1999 Primary School Maths Curriculum*

	a		b		c		d		e		f		g		h	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Strongly Agree	48.0	4.82	22.3	4.44	3.3	1.53	19.4	4.43	11.8	3.61	9.0	3.85	15.7	4.45	31.7	5.59
Agree	45.6	4.27	65.8	4.72	62.2	5.87	65.4	5.32	50.4	5.24	67.0	4.70	66.2	4.54	58.4	6.00
Disagree	4.8	2.41	10.0	2.32	18.2	4.11	11.9	3.35	29.1	4.70	18.3	3.79	12.8	3.19	4.7	2.08
Strongly Disagree	-	-	-	-	0.8	0.78	-	-	0.5	0.52	-	-	-	-	-	-
Missing	1.7	0.97	2.0	1.03	15.6	4.01	3.3	1.38	8.1	1.65	5.8	2.19	5.3	2.09	5.2	2.38

Statement a = teachers are receptive towards the curriculum

Statement b = the curriculum has been implemented successfully

Statement c = the curriculum has improved pupils' Mathematics achievement

Statement d = use of calculators is an important component of the curriculum

Statement e = use of calculators in 4th to 6th class has led to improvements in Mathematics problem solving

Statement f = the curriculum has increased the development of pupils' problem-solving skills

Statement g = the curriculum has increased pupil motivation to learn mathematics

Statement h = the curriculum has resulted in pupils engaging in more frequent practical activities in mathematics

Table E8.20 *Frequency with which Statements were Included/Excluded from School Development Plans, by Designated Status*

Statement		%	SE
Most Included			
Non-Designated	Assessment of pupils' Mathematics achievement	93.6	2.08
	Maintaining records on pupils' achievement in maths	89.6	2.91
	Common terminology for teaching maths across classes	86.8	4.49
Designated	Assessment of pupils' Mathematics achievement	98.1	2.03
	Common terminology for teaching maths across classes	90.0	7.60
	Maintaining records on pupils' achievement in maths	89.4	6.82
Least Included			
Non-Designated	Replacement of defective equipment	38.8	5.54
	Provision of enrichment activities for advanced pupils in maths	39.9	6.10
	Tracking system for locating equipment	52.7	6.00
Designated	Provision of enrichment activities for advanced pupils in maths	45.9	16.00
	Provision for pupils with learning difficulties in maths	56.1	15.29
	Strategies for teaching problem-solving	59.2	15.26

Table E8.21 *Statements included in School Development Plan Relating to Mathematics and Mathematics Achievement*

	Yes			No			Missing		
	%	Score	SE	%	Score	SE	%	Score	SE
Organisation of teaching	74.6	252.3	2.52	20.7	246.0	5.99	4.7	247.0	10.17
Methodology for teaching across classes	85.2	252.2	2.55	10.9	239.7	7.35	3.9	250.9	14.85
Strategies for teaching problem solving	75.1	253.7	2.67	21.1	241.2	5.56	3.8	245.9	2.63
Engaging pupils in practical maths	87.0	251.8	2.62	8.7	243.5	12.39	4.2	244.8	-
Procurement of equipment/materials	82.0	253.0	2.50	13.9	237.0	6.65	4.2	252.0	14.31
Inventory of equipment/materials	86.7	251.2	2.39	9.4	244.4	10.36	3.9	256.3	-
Tracking system for locating equipment	56.6	249.3	2.90	36.7	250.2	3.90	6.7	265.9	11.47
Distribution of material across classes	64.0	251.1	2.98	32.1	249.5	3.73	3.9	256.3	-
Replacement of defective equipment	42.7	249.6	3.42	51.8	250.3	3.51	5.5	265.0	14.03
Assessment of pupil's achievement	94.2	250.6	2.41	2.9	260.9	-	2.9	245.2	-
Maintaining records on achievement	89.5	251.4	2.48	8.1	247.6	6.80	2.4	236.7	-
Communicating progress to parents	84.6	252.5	2.49	13.1	242.1	9.29	2.4	236.7	-
Provision for learning difficulties	66.5	253.7	2.30	26.2	246.6	6.38	7.3	239.7	10.27
Provision for advanced pupils	40.7	252.8	3.23	52.6	250.2	3.24	6.75	242.9	10.05
Common terminology for teaching	87.3	252.3	2.54	9.4	237.9	9.73	3.4	246.0	-

Table E8.22 *Percentage of Pupils Attending Schools Where Standardised Tests are Administered At Least Once a Year, by Class Level*

Class	%	SE
Senior Infants	12.8	4.45
1 st Class	68.0	4.04
2 nd Class	81.9	3.79
3 rd Class	90.5	2.84
4 th Class	90.0	3.23
5 th Class	90.9	2.91
6 th Class	72.13	4.84

Table E8.23 *Frequency of Administering Standardised Maths Tests, by School Size*

	Large		Medium		Small	
	%	SE	%	SE	%	SE
Never	-	-	2.9	2.98	4.4	3.56
Once/2years	6.0	6.03	5.4	3.37	3.3	1.96
Once/year	91.4	6.59	91.7	2.8	86.8	5.85
Twice/year	-	-	-	-	5.5	4.16
Missing	2.6	2.67	-	-	-	-

Table E8.24 *Mean Achievement Scores of Pupils, by School Status (1999 and 2004)*

	1999			2004		
	N	Mean	(SE)	N	Mean	(SE)
Designated	764	227.8	(4.94)	569	219.7	(5.89)
Not Designated	3983	254.3	(2.30)	3602	255.7	(2.35)
All Schools	4747	250.0	(2.20)	4171	250.8	(2.36)

Table E8.25 *Mean Achievement Scores of Pupils at Key Benchmarks, by Designated School Status (1999 and 2004)*

Percentile	1999*		2004**		Diff	SED	95% CI
	Score	SE	Score	SE			
10 th	161.2	5.51	151.1	9.63	-10.1	11.10	-32.3 to 12.1
25 th	190.9	6.15	182.1	4.89	-8.80	7.86	-24.5 to 6.9
50 th	232.9	5.89	220.6	5.30	-12.3	7.90	-28.1 to 3.52
75 th	261.7	5.76	256.1	8.26	-5.6	10.10	-25.7 to 14.5
90 th	295.4	6.43	289.6	13.3	-5.8	-35.3	23.7 to -30.5

* (N = 764); ** (N = 569)

Significant differences in **bold**; SE = Standard Error; SED = Standard Error of the Difference

Table E8.26 *Ratio of Pupils to Learning Support and Resource Teaching Posts, by School Size*

School Size	Learning Support		Resource Teaching	
	Ratio	SE	Ratio	SE
Large	1:373.7	20.97	1:315.5	59.20
Med	1:360.0	26.88	1:278.6	51.61
Small	1:327.4	28.50	1:162.4	17.12
Mean	1:341.9	19.29	1:213.5	18.80

9. Learning Support for Mathematics

Table E9.1 *Percentage of Pupils in Receipt of Learning Support and Resource Teaching for Mathematics*

		In Receipt of RT - mild (%)		In Receipt of RT - specific (%)	
		Yes	No	Yes	No
In Receipt of LS (%)	Yes	1.0	9.5	.2	10.4
	No	2.1	87.2	.6	88.8

N = 4171

Table E9.2 *Levels of Satisfaction of Learning Support Teacher with Coverage of Topics in ICD Courses Attended*

	n	Other Courses*		
		S	NS	NC
Implementing LS guidelines for maths	21	42.9	23.8	33.3
Assessing pupil's learning difficulties in maths	22	40.9	18.2	40.9
Developing/reviewing school policy on LS	21	19.0	23.8	57.1
Learning programmes for pupils receiving LS in maths	21	38.1	19.0	42.9
Recording progress by pupils receiving LS in maths	19	26.3	36.8	36.8
Framework underpinning 1999 PSMC	18	16.7	11.1	72.2
Implementing the 1999 PSMC	18	22.2	16.7	61.1
Interpreting outcomes of standardised tests	21	23.8	33.3	42.9
Management of time	20	10.0	40.0	50.0
Working effectively with class teachers	21	33.3	23.8	42.9
Working effectively with parents	20	25.0	30.0	45.0
Addressing pupils' learning difficulties in maths	20	45.0	25.0	30.0

* Responses based on those who had reported completing courses in the past 1 or 5 years

Table E9.3 *Level of Satisfaction with Coverage of Topics on the One-Year, Part-Time, In-Service Learning Support Course*

	n	Mean	SD	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Identifying pupils with learning difficulties in maths	40	3.28	.68	40.0	47.5	12.5	0
Teaching pupils with learning difficulties in maths	40	3.08	.73	30.0	47.5	22.5	0
Assessing LS pupils' progress in maths	40	2.83	.78	22.5	37.5	40.0	0
Planning/reviewing LS programmes for maths	40	2.80	.79	20.0	42.5	35.0	2.5

(completed only by teachers who have completed/are completing the course)

Table E9.4 *Caseload of Learning Support Teachers for English, by Class-Level*

	JI	SI	Class Level						Total
			1	2	3	4	5	6	
No. of Pupils in receipt of LS	31	524	751	602	474	344	325	213	3264
English only caseload (%)	0.9	16.1	23.0	18.4	14.5	10.5	10.0	6.5	100.0
Total caseload (%)	0.7	12.0	17.2	13.8	10.8	7.9	7.4	4.9	74.6

Table E9.5 *Involvement of Learning Support Teachers in Various Activities Referred to in the Learning Support Guidelines*

	n	Mean	SD	Greatly Involved	Somewhat involved	Involved a little	Not Involved
Maintaining regular planning/progress reports for pupils in receipt of LS	111	3.86	3.8	86.5	12.6	.9	0
Implementing procedures for selecting pupils for Learning support	111	3.68	.71	80.2	10.8	6.3	2.7
Providing supplementary teaching in English	106	3.59	.93	81.1	6.6	2.8	9.4
contributing to development of policy on LS in present school	111	3.52	.85	69.4	19.8	4.5	6.3
Contributing to decision making regarding purchase of learning resources	111	3.47	.81	63.1	24.3	9.0	3.6
Advising teachers on assessment/teaching of pupils in receipt of LS	110	3.31	.79	48.2	37.3	11.8	2.7
Providing supplementary teaching in Mathematics	105	3.11	1.0	50.5	21.0	18.1	10.5
Implementing strategies for early learning to prevent learning difficulties	109	3.07	.98	41.3	34.9	13.8	10.1
<i>(If shared post)</i> Performing defined role in co-ordinating LS to schools*	51	3.20	1.1	56.9	23.5	2.0	17.6

Table E9.6 *Level of Emphasis Placed on Core Content Areas during Learning Support Lesson for Mathematics*

Content Area	n	Mean	SD	Emphasis			
				A lot	Some	Little	None
Number	81	3.95	.21	95.1	4.9	0.0	0.0
Algebra	80	3.28	.68	38.8	51.3	8.8	1.3
Shape & Space	79	2.71	.68	10.1	53.2	34.2	2.5
Measurement	79	2.96	.65	17.7	62.0	19.0	1.3
Data & Chance	78	2.38	.71	2.6	43.6	43.6	10.3

Table E9.7 *Level of Emphasis Placed on Core Mathematics Processes During Learning Support Lesson for Mathematics*

	n	Mean	SD	Emphasis			
				A lot	Some	Little	None
Recalling facts & terminology	82	3.43	.77	57.3	30.5	9.8	2.4
Implementing	82	3.67	.5	67.9	30.9	1.2	0.0
Reasoning	81	2.99	.76	25.6	50.0	22.0	2.4
Understanding connections	81	3.62	.56	65.9	30.5	3.7	0.0
Problem solving	82	3.12	.81	37.0	40.7	19.8	2.5
Communicate & Express	81	3.01	.86	33.3	38.3	24.7	3.7

Table E9.8 *Frequency of Using Various Criteria to Identify and Select Pupils for Learning Support in Mathematics*

	n	Mean	SD	Emphasis			
				Always	Sometimes	Rarely	Never
Outcome of standardised test	94	3.9	0.41	87.2	10.6	22.1	0.0
Progress tests (from text books)	83	2.6	0.88	13.3	48.2	25.3	13.3
Diagnostic tests	85	2.7	1.02	21.2	47.1	11.8	20.0
Teacher checklists	89	2.9	0.89	22.5	57.3	7.9	12.4
Structured teacher observations	92	3.3	0.63	39.1	56.5	2.2	2.2
Parental concerns/feedback	92	3.0	0.64	17.4	63.0	18.5	1.1
Advice from other professionals	93	3.1	0.90	36.6	44.1	10.8	8.6
Other	12	2.0	1.28	16.7	25.0	0.0	58.3

Table E9.9 *Implementation and Usefulness of Learning Support Guidelines as they Relate to Mathematics in Their School*

	n	Very	Somewhat	Unsure	Not Very	Not at all
How useful do you find LS guidelines as a LS teacher	95	28.4	41.1	12.6	12.6	5.5
How much would you agree the LS guidelines for maths are being implemented	95	33.7	40.0	14.7	10.5	1.1

Table E9.10 Percentages of Learning Support Teachers Expressing Satisfaction with the Availability of Resources for Teaching Learning Support in Mathematics

	n	Mean	SD	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Diagnostic tests	91	2.95	.95	33.0	37.4	20.9	8.8
Books about maths for teachers	90	2.74	.91	21.1	42.2	26.7	10.0
Computer hardware	89	2.99	.81	25.8	52.8	15.7	5.6
Computer software	89	2.92	.79	21.3	55.1	18.0	5.6
Environmental materials	92	3.11	.70	28.3	26.5	13.0	2.2
Structured materials	93	3.15	.71	31.2	54.8	11.8	2.2

Table E9.11 Aspects of Mathematics with which Learning Support Pupils Have Most Difficulty

	Most Difficult						Least Difficult					
	1		2		3		4		5		6	
	n	%	n	%	n	%	n	%	n	%	n	%
A	8	7.8	7	8.1	12	15.2	0	0	1	7.7	8	61.5
B	17	16.7	14	16.3	10	12.7	3	21.4	2	15.4	2	15.4
C	41	40.2	13	15.1	9	11.4	0	0	2	15.4	0	0
D	15	14.7	22	25.6	12	15.2	2	14.3	5	38.5	1	7.7
E	15	14.7	18	20.9	22	27.8	3	21.4	1	7.7	1	7.7
F	6	5.9	12	14.0	14	17.7	6	42.9	2	15.4	1	7.7
Total	102		86		79		14		13		13	

A = Reading mathematics textbooks

B = Understanding number concepts

C = Solving word problems

D = Understanding Mathematics problems

E = Memorisation and recall of number facts

F = Implementing procedures

Table E9.12 *Agreement With Statements Relating to Learning Support for Mathematics*

Issue	n	Mean	Sd	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
There is a satisfactory level of cooperation between class & LS programmes	91	3.84	0.91	22.0	50.5	17.6	8.8	1.1
There is a lack of clear policy on provision of LS for maths	90	3.39	1.23	16.7	43.3	11.1	20.0	8.9
There is a shortage of suitable books & other materials for LS for maths	93	3.20	1.37	18.3	35.5	9.7	21.5	15.1
Responsibility for pupils' progress is shared between the class & LS teachers	92	3.90	0.85	21.7	56.5	12.0	9.8	0.0
The school supports me in accessing in-career development opportunities	90	4.28	0.60	34.4	60.0	4.4	1.1	0.0
The approach to LS teaching is a team approach involving all teachers	92	3.84	0.99	25.0	48.9	12.0	13.0	1.1
The area provided for LS teaching is unsatisfactory	92	3.68	1.38	32.6	40.2	4.3	8.7	14.1
LS is meeting the needs of pupils with learning problems in maths	89	3.16	1.21	13.5	31.5	22.5	22.5	10.1
There is lack of support from class teachers in implementing LS programmes for maths	91	3.89	0.89	22.0	56.0	12.1	8.8	1.1
The class teacher assumes primary responsibility for development of LS pupils	92	3.77	0.94	20.7	47.8	21.7	7.6	2.2
There is a lack of support from parents of pupils receiving LS for maths	92	3.50	1.09	14.1	50.0	12.0	19.6	4.3

Table E9.13 *Percentage of Pupils Attending Schools in which Learning Support Was Not Provided by an Officially Sanctioned Learning Support Teacher for Mathematics, by School Size and Designated Status in 1999 and 2004*

School Size/Status	1999 Study		2004 Study		Diff	SED	95%CI	
	%	SE	%	SE				
Large	48.1	6.21	35.7	6.50	12.4	8.99	-5.55	30.35
Medium	55.6	10.30	49.3	7.22	6.3	12.58	-18.82	31.42
Small	64.3	8.38	62.4	7.41	1.9	11.19	-20.44	24.24
Designated	52.1	11.70	74.0	9.53	21.9	15.09	-52.04	8.24
Non-Designated	56.2	4.77	45.8	5.01	10.4	6.92	-3.41	24.21
Total	55.6	4.60	49.5	4.29	6.1	6.29	-6.46	18.66

Table E9.14 *Percentages of Pupils Who Needed and Were Receiving Learning Support for Mathematics, 1999 and 2004 (4th Class Only)*

	1999 Study		2004 Study		Diff	SED	95%CI	
	Mean	SE	Mean	SE				
% Need Learning Support	20.5	.90	14.4	1.06	6.1	1.39	3.32	8.88
% Receiving Learning Support	7.60	1.25	6.5	.89	1.1	1.53	-1.96	4.16
% Received in Past but Discontinued	3.2	.68	2.9	.61	.3	.91	-1.52	2.12

Table E9.15 *Mean Number of Years Learning Support in Mathematics Received by Pupils in Fourth Class (1999 and 2004)*

Years LS	1999 Study		2004 Study		Diff	SED	95%CI	
	%	SE	%	SE				
1	47.5	6.11	44.3	6.01	3.2	8.57	-20.32	13.92
2	23.5	4.39	33.0	5.93	9.5	7.38	-24.23	5.23
3	9.8	1.91	10.5	2.55	.7	3.19	-7.06	5.66
4	14.8	5.89	7.8	3.05	7.0	6.63	-6.25	20.25
5	2.7	1.66	3.4	1.40	.7	2.17	-5.04	3.64
6	1.7	1.31	1.1	0.74	.6	1.5	-2.41	3.61

10. Inspectors' Views on Teaching and Learning Mathematics

Table 10.1 *Percentages of Inspectors' Comments Falling into Various Topic Categories*

Topic	Number of Inspectors	Percent of Inspectors	Number of Comments	Percent of comments
Concrete materials	11	57.9	12	24.5
Problem solving	5	26.3	6	12.2
Textbooks	4	21.1	5	10.2
Language	4	21.1	4	8.2
Differentiation	3	15.8	3	6.1
Grouping/whole class teaching	3	15.8	3	6.1
Teaching methods	3	15.8	3	6.1
Learning support	2	10.5	3	6.1
Assessment	2	10.5	2	4.1
Number	2	10.5	2	4.1
Time	2	10.5	2	4.1
Other	4	21.1	4	10.2

*Other: Curriculum implementation; gender differences; in-career development; pre-service teacher education.