

APPENDIX A: Notes for Chapter 1

NEW ZEALAND'S PARTICIPATION IN IEA STUDIES

Both TIMSS studies were conducted under the auspices of The International Association for the Evaluation of Educational Achievement (IEA), which is an independent cooperative of national research institutions with its headquarters based in Amsterdam, the Netherlands. The Lynch School of Education at Boston College, Massachusetts in the United States, managed the day-to-day research activities in the TIMSS-98 study (including the re-scaling of the original TIMSS-94 data). The IEA Data Processing Centre in Hamburg, Germany also provided assistance with the cleaning of the New Zealand data.

In New Zealand, the Ministry of Education is the member institution of IEA. The Ministry makes the decision about whether or not to participate in a particular study, and is responsible for the conduct of the study nationally. The first IEA study New Zealand took part in was the Six-subject Study in 1970-71, which included science. Other related studies that New Zealand participated in were the Second International Mathematics Study (1980-82), Computers in Education (1989), its successor the Second Information Technology in Education Study (1998), the Third International Mathematics and Science Study (1994) and its repeat (1998).

NEW ZEALAND REPORTS

There are two national reports for TIMSS-98 focusing on mathematics and science achievement and student background information. This one looking at Year 5 results at a national level, and the year 9 report with both international and national results.

A total of six national TIMSS-94 reports were published by the Ministry of Education between 1996 and 1998:

- *Mathematics Performance of New Zealand Form 2 and Form 3 Students* (Garden, 1996a);
- *Science Performance of New Zealand Form 2 and Form 3 Students* (Garden, 1996b);
- *Mathematics and Science Performance in Middle Primary School* (Garden, 1997a);
- *Performance Assessment* (Garden, 1997b);
- *Mathematics and Science Literacy in the Final Year of Schooling* (Garden, 1998);
- *Student Performance on Open-Ended Questions* (Chamberlain et al, 1998).

INTERNATIONAL REPORTS

The International Study Centre, based at Boston College, is responsible for the publication of the TIMSS-98 international reports. They also produced 10 major volumes for TIMSS-94 about student achievement

(Beaton et al, 1996a and 1996b; Martin et al, 1997 and Mullis et al, 1997; Harmon et al, 1997; Mullis et al, 1998; Martin et al, 1999; Martin and Kelly, 1996 and 1997; and Martin and Mullis, 1996).

The curriculum analysis results for TIMSS-94 were published from Michigan State University (Schmidt et al, 1997a and 1997b). In addition, a series of monographs were published by a team from the University of British Columbia in Vancouver (Robitaille et al, 1993; Robitaille and Garden, 1996; Howson, 1995; and Orpwood and Garden, 1998).

APPENDIX B: Reference Tables for Chapter 2

MATHEMATICS ACHIEVEMENT

The following tables present scores based on Item Response Theory (IRT). In addition, Year 5 students' performance in mathematics for the *trend* and *released* items based on mean percent correct scores is also shown.

TABLE B.1 DISTRIBUTION OF YEAR 5 STUDENTS' MATHEMATICS SCORES IN 1994 AND 1998

Percentiles	Mathematics scores Year of assessment	
	1994	1998
5 th	297	315
25 th	410	420
50 th	479	487
75 th	535	546
95 th	613	627

TABLE B.2 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON TREND AND RELEASED MATHEMATICS ITEMS IN 1994 AND 1998

Year of assessment	Mean percent correct scores (se)		
	<i>Trend</i> items	<i>Released</i> items	Overall
1994	61 (0.8)	49 (1.0)	53 (0.9)
1998	63 (0.8)	53 (1.0)	56 (0.9)

TABLE B.3 YEAR 5 STUDENTS' MEAN MATHEMATICS SCORES IN 1994 AND 1998, BY GENDER

Year of assessment	Mean mathematics scores (se)		
	Girls	Boys	Overall
1994	474 (4.3)	465 (6.1)	469 (4.4)
1998	480 (6.0)	482 (5.8)	481 (5.6)

TABLE B.4 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS' ON TREND AND RELEASED MATHEMATICS ITEMS FOR 1994 AND 1998, BY GENDER

Year of assessment	Mean percent correct scores on <i>trend</i> items (se)		Mean percent correct scores on <i>released</i> items (se)	
	Girls	Boys	Girls	Boys
1994	62 (0.9)	60 (1.0)	51 (1.1)	48 (1.3)
1998	63 (1.0)	63 (0.9)	53 (1.3)	52 (1.1)

TABLE B.5A MEAN EFFECT SIZES IN MATHEMATICS SCORES FOR YEAR 5 STUDENTS IN 1994, BY ETHNIC GROUPING

Ethnic grouping	Maori	Pacific	Asian
Pakeha/European	0.73	0.95	0.11
Maori		0.16	-0.56
Pacific			-0.75

$d < 0.35$ Difference between means is small
 $0.35 \leq d \leq 0.75$ Difference between mean is of medium-size
 $d > 0.75$ Difference between means is large

TABLE B.5B MEAN EFFECT SIZES IN MATHEMATICS SCORES FOR YEAR 5 STUDENTS IN 1998, BY ETHNIC GROUPING

Ethnic grouping	Maori	Pacific	Asian
Pakeha/European	0.65	0.97	-0.15
Maori		0.16	-0.78
Pacific			-1.08

$d < 0.35$ Difference between means is small
 $0.35 \leq d \leq 0.75$ Difference between mean is of medium-size
 $d > 0.75$ Difference between means is large

TABLE B.6A MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS' ON TREND MATHEMATICS ITEMS IN 1994 AND 1998, BY ETHNIC GROUPING

Year of assessment	Mean percent correct scores on <i>trend</i> items (se)			
	Pakeha/European	Maori	Pacific	Asian
1994	65 (0.8)	54 (1.7)	52 (1.9)	66 (2.1)
1998	67 (0.9)	57 (1.2)	51 (2.2)	71 (1.5)

TABLE B.6B MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON *RELEASED* MATHEMATICS ITEMS IN 1994 AND 1998, BY ETHNIC GROUPING

Year of assessment	Mean percent correct score on <i>released</i> items (se)			
	Pakeha/European	Maori	Pacific	Asian
1994	54 (1.0)	40 (2.0)	36 (1.4)	55 (2.7)
1998	58 (1.0)	44 (1.4)	39 (2.5)	63 (3.2)

TABLE B.7 YEAR 5 STUDENTS' MEAN MATHEMATICS SCORES IN 1994 AND 1998, BY ETHNIC GROUPING AND GENDER

Year of assessment	Mean mathematics score (se)							
	Pakeha/European		Maori		Pacific		Asian	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
1994	491 (4.6)	495 (4.9)	446 (8.1)	405 (11.2)	416 (12.3)	408 (15.0)	467 (32.2)	494 (16.3)
1998	505 (5.4)	500 (6.0)	441 (7.7)	449 (9.1)	408 (22.0)	424 (12.3)	504 (12.6)	529 (11.7)

TABLE B.8 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON *TREND* MATHEMATICS ITEMS IN 1994 AND 1998, BY ETHNIC GROUPING AND GENDER

Year of assessment	Mean percent correct scores on <i>trend</i> items (se)							
	Pakeha/European		Maori		Pacific		Asian	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
1994	65 (1.1)	65 (1.0)	58 (1.5)	50 (2.1)	52 (2.9)	52 (1.8)	65 (3.4)	68 (3.2)
1998	67 (1.0)	66 (1.0)	56 (1.2)	57 (1.6)	49 (2.6)	51 (2.8)	68 (1.9)	74 (2.1)

TABLE B.9 YEAR 5 STUDENTS' MEAN MATHEMATICS SCORES IN 1994 AND 1998, BY THE DEGREE THAT ENGLISH IS SPOKEN IN THE HOME

The extent to which English was spoken in students' homes	1994		1998	
	% of students	Mean mathematics score (se)	% of students	Mean mathematics score (se)
Always/ almost always	87	481 (4.2)	85	490 (5.0)
Sometimes/ never	13	404 (8.3)	15	441 (10.8)

TABLE B.10 PROPORTION OF YEAR 5 STUDENTS IN 1994 AND 1998, BY THE DEGREE THAT ENGLISH IS SPOKEN IN THE HOME AND ETHNIC GROUPING

Ethnic grouping	Always/almost always spoke English		Sometimes/never spoke English	
	1994 % of students	1998 % of students	1994 % of students	1998 % of students
Pakeha/European	95	96	5	4
Maori	81	83	19	17
Pacific	59	51	41	49
Asian	47	32	53	68

TABLE B.11 YEAR 5 STUDENTS' MEAN MATHEMATICS SCORES IN 1994 AND 1998, BY THE DEGREE THAT ENGLISH IS SPOKEN IN THE HOME AND ETHNIC GROUPING

Ethnic grouping	Mean mathematics scores (se)			
	1994		1998	
	Always/almost always	Sometimes/never	Always/almost always	Sometimes/never
Pakeha/European	498 (3.9)	422 (12.7)	505 (5.0)	462 (13.5)
Maori	442 (8.8)	377 (12.2)	456 (6.6)	399 (13.9)
Pacific	438 (11.3)	377 (16.6)	444 (14.8)	390 (23.8)
Asian	513 (18.5)	468 (17.0)	508 (13.8)	519 (12.4)

TABLE B.12 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON TREND AND RELEASED MATHEMATICS ITEMS IN 1994 AND 1998, BY THE DEGREE THAT ENGLISH IS SPOKEN IN THE HOME

Year of assessment	Mean percent correct scores on <i>trend</i> items (se)		Mean percent correct scores on <i>released</i> items (se)	
	Always/almost always	Sometimes/never	Always/almost always	Sometimes/never
1994	63 (0.8)	49 (1.5)	51 (1.0)	37 (1.8)
1998	64 (0.8)	57 (1.1)	55 (1.0)	44 (1.5)

TABLE B.13 YEAR 5 STUDENTS' MEAN SCORES FOR EACH MATHEMATICS REPORTING CATEGORY IN 1994 AND 1998

Year of assessment	Mean mathematics sub-scale scores (se)			
	Whole Numbers	Fractions & Proportionality	Geometry & Measurement	Data Representation, Analysis, & Probability
1994	456 (4.5)	472 (4.8)	479 (4.6)	499 (4.1)
1998	466 (5.6)	478 (5.8)	492 (5.3)	512 (4.3)

TABLE B.14 YEAR 5 STUDENTS' MEAN SCORES FOR EACH MATHEMATICS REPORTING CATEGORY IN 1994 AND 1998, BY GENDER

Year of assessment	Mean mathematics sub-scale scores (se)							
	Whole Numbers		Fractions & Proportionality		Geometry & Measurement		Data Representation, Analysis, & Probability	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
1994	459 (4.6)	452 (6.2)	475 (4.6)	470 (6.2)	485 (4.5)	472 (6.0)	510 (4.3)	488 (4.9)
1998	460 (6.0)	471 (5.9)	478 (6.2)	478 (6.1)	489 (5.4)	496 (6.0)	516 (4.7)	507 (4.5)

TABLE B.15 YEAR 5 STUDENTS' MEAN SCORES FOR EACH MATHEMATICS REPORTING CATEGORY IN 1994 AND 1998, BY ETHNIC GROUPING

Ethnic grouping	Year of assessment	Mean mathematics sub-scale scores (se)			
		Whole Numbers	Fractions & Proportionality	Geometry & Measurement	Data Representation, Analysis & Probability
Pakeha/European	1994	477 (4.1)	496 (4.1)	503 (3.7)	519 (3.5)
	1998	485 (5.0)	501 (5.1)	514 (4.7)	529 (3.9)
Maori	1994	418 (7.4)	432 (9.2)	436 (8.3)	465 (7.4)
	1998	433 (6.9)	439 (7.7)	462 (7.2)	486 (5.6)
Pacific	1994	404 (10.1)	414 (10.1)	426 (9.2)	448 (9.9)
	1998	397 (19.0)	409 (14.7)	424 (14.3)	453 (13.3)
Asian	1994	474 (19.5)	478 (18.4)	484 (17.0)	504 (17.2)
	1998	509 (11.5)	514 (12.3)	511 (11.0)	532 (8.6)

APPENDIX C: Reference Tables for Chapter 3

SCIENCE ACHIEVEMENT

The following tables present science scores based on Item Response Theory (IRT). In addition, Year 5 students' performance in science for the *trend* and *released* items based on mean percent correct scores is also presented.

TABLE C.1 DISTRIBUTION OF YEAR 5 STUDENTS' SCIENCE SCORES IN 1994 AND 1998

Percentiles	Science scores	
	Year of assessment	
	1994	1998
5 th	310	336
25 th	448	454
50 th	516	521
75 th	576	582
95 th	659	668

TABLE C.2 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON TREND AND RELEASED SCIENCE ITEMS IN 1994 AND 1998

Year of testing	Mean percent correct score (se)		
	<i>Trend</i> items	<i>Released</i> items	Overall
1994	71 (0.7)	56 (1.0)	60 (0.8)
1998	73 (0.7)	56 (0.9)	62 (0.8)

TABLE C.3 YEAR 5 STUDENTS' MEAN SCIENCE SCORES IN 1994 AND 1998, BY GENDER

Year of testing	Mean science score (se)		
	Girls	Boys	Overall
1994	511 (4.8)	499 (7.0)	505 (5.3)
1998	511 (5.9)	518 (6.6)	514 (5.9)

TABLE C.4 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON *TREND* AND *RELEASED* SCIENCE ITEMS IN 1994 AND 1998, BY GENDER

Year of testing	<i>Trend</i> items mean percent correct score (se)		<i>Released</i> items mean percent correct score (se)	
	Girls	Boys	Girls	Boys
1994	71 (0.7)	70 (0.8)	56 (1.0)	54 (1.3)
1998	72 (0.8)	73 (0.8)	55 (1.2)	57 (1.2)

TABLE C.5A MEAN EFFECT SIZES IN SCIENCE SCORES FOR YEAR 5 STUDENTS IN 1994, BY ETHNIC GROUPING

Ethnic grouping	Maori	Pacific	Asian
Pakeha/European	0.79	1.02	0.44
Maori		0.15	-0.32
Pacific			-0.50

$d < 0.35$	Difference between means is small
$0.35 \leq d \leq 0.75$	Difference between mean is of medium-size
$d > 0.75$	Difference between means is large

TABLE C.5B MEAN EFFECT SIZES IN SCIENCE SCORES FOR YEAR 5 STUDENTS IN 1998, BY ETHNIC GROUPING

Ethnic grouping	Maori	Pacific	Asian
Pakeha/European	0.67	1.13	0.26
Maori		0.43	-0.40
Pacific			-0.87

$d < 0.35$	Difference between means is small
$0.35 \leq d \leq 0.75$	Difference between mean is of medium-size
$d > 0.75$	Difference between means is large

TABLE C.6 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON *TREND* SCIENCE ITEMS IN 1994 AND 1998, BY ETHNIC GROUPING

Year of assessment	Mean percent correct scores on <i>trend</i> items (se)			
	Pakeha/European	Maori	Pacific	Asian
1994	75 (0.6)	64 (1.3)	61 (2.0)	68 (1.9)
1998	76 (0.6)	67 (1.3)	61 (1.4)	74 (1.4)

TABLE C.7 YEAR 5 STUDENTS' MEAN SCIENCE SCORES IN 1994 AND 1998, BY GENDER AND ETHNIC GROUPING

Year of assessment	Mean science scores (se)							
	Pakeha/European		Maori		Pacific		Asian	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
1994	534 (4.3)	534 (5.3)	478 (11.1)	432 (14.6)	445 (17.4)	437 (17.4)	478 (27.4)	503 (20.5)
1998	539 (5.0)	543 (6.1)	478 (8.6)	477 (9.9)	428 (18.4)	443 (15.3)	501 (14.6)	535 (11.1)

TABLE C.8 MEAN PERCENT CORRECT SCORES FOR YEAR 5 STUDENTS ON TREND SCIENCE ITEMS IN 1994 AND 1998, BY GENDER AND ETHNIC GROUPING

Year of assessment	Mean percent correct scores (se)							
	Pakeha/European		Maori		Pacific		Asian	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
1994	75 (0.7)	75 (0.8)	66 (1.4)	61 (1.7)	62 (2.5)	61 (2.5)	66 (3.4)	70 (3.1)
1998	76 (0.7)	77 (0.8)	67 (1.4)	68 (1.6)	59 (1.7)	62 (2.5)	71 (1.6)	77 (2.0)

TABLE C.9 YEAR 5 STUDENTS' MEAN SCIENCE SCORES IN 1994 AND 1998, BY THE DEGREE THAT ENGLISH IS SPOKEN IN THE HOME

The extent to which English was spoken in students' homes	1994		1998	
	Proportion of students (%)	Mean science score (se)	Proportion of students (%)	Mean science score (se)
Always/ almost always	87	519 (5.1)	85	526 (5.2)
Sometimes/ never	13	424 (8.2)	15	453 (9.7)

TABLE C.10 YEAR 5 STUDENTS' MEAN SCIENCE SCORES IN 1994 AND 1998, BY THE DEGREE THAT ENGLISH IS SPOKEN IN THE HOME AND ETHNIC GROUPING

Home language grouping	Mean science scores (se)			
	Pakeha/ European	Maori	Pacific	Asian
1994				
Always/ almost always	539 (3.7)	471 (12.4)	477 (15.4)	547 (21.3)
Sometimes/ never	445 (14.4)	411 (14.6)	389 (20.2)	459 (16.1)
1998				
Always/ almost always	544 (4.9)	488 (7.3)	468 (14.7)	534 (18.5)
Sometimes/ never	481 (17.0)	426 (14.2)	405 (16.4)	509 (11.2)

TABLE C.11 YEAR 5 STUDENTS' MEAN SCORES FOR EACH SCIENCE REPORTING CATEGORY IN 1994 AND 1998

Year of assessment	Mean science sub-scale scores (se)		
	Earth Science	Life Science	Physical Science
1994	510 (5.4)	509 (5.6)	496 (5.8)
1998	528 (6.0)	522 (5.5)	506 (5.9)

TABLE C.12 YEAR 5 STUDENTS' MEAN SCORES FOR EACH SCIENCE REPORTING CATEGORY IN 1994 AND 1998, BY GENDER

Year of assessment	Mean science sub-scale scores (se)					
	Earth Science		Life Science		Physical Science	
	Girls	Boys	Girls	Boys	Girls	Boys
1994	508 (5.5)	514 (6.3)	521 (5.4)	497 (7.0)	500 (5.6)	492 (7.8)
1998	516 (6.1)	541 (6.8)	526 (5.9)	519 (6.0)	501 (5.9)	511 (6.7)

TABLE C.13 YEAR 5 STUDENTS' MEAN SCORES FOR EACH SCIENCE REPORTING CATEGORY IN 1994 AND 1998, BY ETHNIC GROUPING

Ethnic grouping and year of assessment	Mean science sub-scale scores (se)		
	Earth Science	Life Science	Physical Science
Pakeha/European			
1994	536 (4.3)	538 (4.3)	527 (4.6)
1998	554 (5.2)	548 (4.9)	532 (5.2)
Maori			
1994	468 (11.1)	462 (11.8)	445 (11.4)
1998	493 (7.7)	488 (7.4)	468 (8.6)
Pacific			
1994	448 (13.6)	447 (15.5)	429 (14.4)
1998	449 (13.8)	449 (12.6)	435 (12.2)
Asian			
1994	503 (17.4)	492 (17.0)	480 (19.2)
1998	530 (12.7)	518 (10.4)	508 (10.2)

APPENDIX D: Reference Tables for Chapter 4

The information contained in these tables all refer to the data and discussion on the students in Chapter 4.

TABLE D.1 SUMMARY STATISTICS OF YEAR 5 STUDENTS' AGES FOR 1994 AND 1998

Statistics	1994	1998
Mean	10 yrs 0 mths	10 yrs 0 mths
Range (99% in this range)	9 yrs 4 mths – 10 yrs 10 mths	9 yrs 1 mths – 10 yrs 9 mths

TABLE D.2 PROPORTION OF YEAR 5 STUDENTS, BY THE DEGREE THAT THEY SPEAK ENGLISH IN THE HOME FOR 1994 AND 1998

Frequency speak English	Proportion of students (%)	
	1994	1998
Always/almost always	87	85
Sometimes/never	13	15

TABLE D.3 PROPORTION OF YEAR 5 STUDENTS, BY HOUSEHOLD COMPOSITION FOR 1994 AND 1998

People in the home	Proportion of students (%)	
	1994	1998
Mother or female caregiver	92	93
Father or male caregiver	78	76
One or more brother(s)	66	63
One or more sister(s)	62	60
Stepmother or stepfather	12	14
One or more grandparent(s)	23	24
Another relative(s)	21	22
Another person(s)	14	13

TABLE D.4 PROPORTION OF YEAR 5 STUDENTS, BY HOUSEHOLD COMPOSITION AND ETHNIC GROUPING FOR 1994 AND 1998

People in the home	1994				1998			
	Pakeha/ European (%)	Maori (%)	Pacific (%)	Asian (%)	Pakeha/ European (%)	Maori (%)	Pacific (%)	Asian (%)
Mother or female caregiver	94	89	85	93	95	90	88	92
Father or male caregiver	79	76	78	81	79	69	74	79
One or more brother(s)	65	69	70	60	61	65	66	62
One or more sister(s)	61	63	66	55	58	61	70	49
Stepmother or stepfather	10	19	11	2	13	18	21	7
One or more grandparent(s)	19	30	40	22	19	29	35	29
Another relative(s)	16	32	30	19	15	31	47	25
Another person(s)	13	18	14	10	13	16	14	11

TABLE D.5 YEAR 5 STUDENTS' MEAN MATHEMATICS AND SCIENCE SCORES, BY HOUSEHOLD STRUCTURE FOR 1998

Household structure	Proportion of students (%)	Mean achievement scores (se)	
		Mathematics	Science
Two-parent family	53	507 (5.3)	543 (5.3)
Two-parent family & others	25	454 (6.2)	487 (6.4)
One-parent family	10	478 (9.7)	504 (9.6)
One-parent & others	8	440 (10.0)	467 (11.1)
Not with parents	4	435 (11.6)	459 (11.7)

Note: (se) Standard errors appear in parentheses.

TABLE D.6 YEAR 5 STUDENTS' ESTIMATES OF THE NUMBER OF BOOKS IN THEIR HOMES FOR 1994 AND 1998, BY ETHNIC GROUPING

Number of books	1994			1998		
	Proportion of students (%)	Mean mathematics score (se)	Mean science score (se)	Proportion of students (%)	Mean mathematics score (se)	Mean science score (se)
25 or less	16	398 (9.5)	427 (10.4)	18	422 (7.9)	450 (7.9)
26-100	22	473 (6.2)	509 (6.2)	25	484 (5.5)	510 (6.3)
More than 100	62	493 (3.9)	531 (4.7)	57	504 (5.3)	542 (5.2)

Note: (se) Standard errors appear in parentheses.

TABLE D.7 YEAR 5 STUDENTS' MEAN MATHEMATICS AND SCIENCE SCORES, BY THE NUMBER OF BOOKS IN THE HOME FOR 1994 AND 1998

Number of books	Ethnic grouping			
	Pakeha/ European (%)	Maori (%)	Pacific (%)	Asian (%)
0-10				
1994	2	18	13	14
1998	3	11	23	11
11-25				
1994	6	13	17	17
1998	6	18	19	21
26-100				
1994	21	22	31	23
1998	25	27	21	24
101-200				
1994	26	18	13	12
1998	26	19	14	24
201+				
1994	44	29	26	34
1998	40	25	23	20

TABLE D.8 AMOUNT OF TIME PER DAY YEAR 5 STUDENTS SPENT WATCHING TELEVISION AND VIDEOS ON A NORMAL SCHOOL DAY FOR 1994 AND 1998, BY GENDER

Gender	Television and video watching									
	1994					1998				
	No time (%)	Less than 1 hr (%)	1-2 hrs (%)	3-4 hrs (%)	More than 4 hrs (%)	No time (%)	Less than 1 hr (%)	1-2 hrs (%)	3-4 hrs (%)	More than 4 hrs (%)
Girls	9	29	32	15	14	10	27	35	15	13
Boys	10	22	30	14	23	9	24	30	18	19

TABLE D.9 AMOUNT OF TIME PER DAY YEAR 5 STUDENTS SPENT READING A BOOK FOR ENJOYMENT ON A NORMAL SCHOOL DAY FOR 1994 AND 1998, BY GENDER

Gender	Reading a book for enjoyment							
	1994				1998			
	No time (%)	Less than 1 hr (%)	1-2 hrs (%)	More than 2 hrs (%)	No time (%)	Less than 1 hr (%)	1-2 hrs (%)	More than 2 hrs (%)
Girls	13	49	24	14	12	46	26	16
Boys	30	44	17	9	25	45	18	12

TABLE D.10 AMOUNT OF TIME PER DAY YEAR 5 STUDENTS SPENT ON THEIR HOMEWORK FOR 1994 AND 1998, BY ETHNIC GROUPING

Type of homework & ethnic grouping	1994				1998			
	No time (%)	Less than 1 hr (%)	1-2 hrs (%)	More than 2 hrs (%)	No time (%)	Less than 1 hr (%)	1-2 hrs (%)	More than 2 hrs (%)
Mathematics homework								
All Students	21	54	18	7	12	56	23	9
Pakeha/ European	19	58	18	5	11	62	22	5
Maori	27	47	16	10	15	53	22	11
Pacific	20	42	25	13	22	33	23	22
Asian	11	37	35	17	6	45	36	13
Science homework								
All Students	55	32	9	4	47	37	12	4
Pakeha/ European	55	34	9	3	48	40	10	2
Maori	58	26	10	6	46	35	13	5
Pacific	47	34	10	9	47	24	17	12
Asian	47	35	12	6	36	39	21	4
Other homework								
All Students	26	45	21	8	21	47	22	10
Pakeha/ European	24	49	20	7	21	49	23	7
Maori	31	38	22	9	22	45	19	14
Pacific	26	38	21	15	22	37	21	20
Asian	23	42	23	12	15	50	26	8

TABLE D.11 YEAR 5 STUDENTS' PERCEPTIONS ON THE IMPORTANCE OF DOING WELL BASED ON THE OPINIONS OF THEIR MOTHER, FRIENDS AND SELF FOR 1994 AND 1998

It is important to ...	Student perceives mother thinks it is important (%)		Student perceives friends think it is important (%)		Student thinks it is important (%)	
	1994	1998	1994	1998	1994	1998
...do well in mathematics at school	95	96	76	78	96	96
...do well in science at school	90	92	67	68	90	93
...be good at sports	87	87	88	88	91	90
...have time to have fun	92	94	96	96	95	97

TABLE D.12 YEAR 5 STUDENTS' PERCEPTIONS ON THE IMPORTANCE OF DOING WELL BASED ON THE OPINIONS OF THEIR MOTHER, FRIENDS AND SELF FOR 1994 AND 1998, BY ETHNIC GROUPING

Year and ethnic grouping	Student perceives mother thinks it is important (%)				Student perceives friends think it is important (%)				Student thinks it is important (%)			
	It is important to...				It is important to...				It is important to ...			
	...do well in mathematics (%)	...do well in science (%)	...be good at sports (%)	...have time for fun (%)	...do well in mathematics (%)	...do well in science (%)	...be good at sports (%)	...have time for fun (%)	...do well in mathematics (%)	...do well in science (%)	...be good at sports (%)	...have time for fun (%)
1994												
Pakeha/ European	96	91	86	94	74	66	87	96	96	91	90	97
Maori	95	89	90	91	78	69	90	95	95	90	92	93
Pacific	91	84	86	87	81	66	88	90	95	87	93	92
Asian	98	90	82	83	72	64	84	98	95	88	90	92
Other	92	88	84	89	83	70	89	93	93	94	85	92
1998												
Pakeha/ European	97	92	86	96	76	67	89	97	96	94	89	98
Maori	95	90	91	94	79	66	89	96	96	91	91	97
Pacific	95	90	87	87	84	72	87	93	97	92	92	90
Asian	98	92	79	87	77	71	77	96	97	94	87	93
Other	100	95	90	93	81	76	82	97	99	94	90	97

TABLE D.13 PROPORTION OF YEAR 5 STUDENTS' ATTITUDES TOWARDS MATHEMATICS FOR 1994 AND 1998

Statements about mathematics	1994				1998			
	Dislike a lot or strongly disagree (%)	Dislike or disagree (%)	Like or agree (%)	Like a lot or strongly agree (%)	Dislike a lot or strongly disagree (%)	Dislike or disagree (%)	Like or agree (%)	Like a lot or strongly agree (%)
I like mathematics	10	9	35	47	6	9	39	46
I enjoy learning mathematics	7	11	37	45	3	9	41	47
Mathematics is boring	42	31	14	14	43	31	15	11
Mathematics is an easy subject	12	34	33	21	8	36	38	18

TABLE D.14 PROPORTION OF YEAR 5 STUDENTS ON THE PATM INDEX FOR MATHEMATICS IN 1998, BY ETHNIC GROUPING

Ethnic grouping	Year 5 students at each level of the PATM Index in 1998		
	Low (%)	Medium (%)	High (%)
Pakeha/European	13	36	51
Māori	8	34	58
Pacific	6	24	70
Asian	7	29	65

TABLE D.15 PROPORTION OF YEAR 5 STUDENTS' ATTITUDES TOWARDS SCIENCE FOR 1994 AND 1998

Statements about science	1994				1998			
	Dislike a lot or strongly disagree (%)	Dislike or disagree (%)	Like or agree (%)	Like a lot or strongly agree (%)	Dislike a lot or strongly disagree (%)	Dislike or disagree (%)	Like or agree (%)	Like a lot or strongly agree (%)
I like science	9	8	37	46	6	11	41	42
I enjoy learning science	9	9	36	47	6	11	41	43
Science is boring	47	33	10	10	44	36	12	8
Science is an easy subject	17	33	32	19	14	38	33	15

TABLE D.16 PROPORTION OF YEAR 5 STUDENTS ON THE PATS INDEX AND THEIR SCIENCE SCORES IN 1998, BY ETHNIC GROUPING

Ethnic grouping	Year 5 students at each level of the PATS Index in 1998		
	Low (%)	Medium (%)	High (%)
Pakeha/European	10	37	53
Māori	10	40	50
Pacific	9	36	55
Asian	5	43	52

TABLE D.17 PROPORTION OF YEAR 5 STUDENTS LEVEL OF AGREEMENT WITH REASONS FOR SUCCESS IN MATHEMATICS AND SCIENCE IN 1994

Reasons for success	Mathematics				Science			
	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
Lots of natural ability	39	45	11	6	43	41	11	6
Good luck	37	27	20	16	36	30	18	16
Lots of hard work studying at home	55	32	8	6	55	32	8	6
To memorise the textbook or notes	32	40	18	10	34	38	16	12

TABLE D.18 PROPORTION OF YEAR 5 STUDENTS OR THEIR FRIENDS WHO HAD SOMETHING STOLEN IN THE LAST MONTH FOR 1994 AND 1998, BY ETHNIC GROUPING

Ethnic grouping	Proportion of students reporting yes (%)			
	Something of mine was stolen		Some of my friends had things stolen	
	1994	1998	1994	1998
Pakeha/European	44	38	52	46
Māori	53	49	58	55
Pacific	44	45	57	59
Asian	41	41	38	40
Other	47	35	56	51

TABLE D.19 PROPORTION OF YEAR 5 STUDENTS OR THEIR FRIENDS WHO HAD BEEN HURT IN THE LAST MONTH FOR 1994 AND 1998, BY ETHNIC GROUPING

Ethnic grouping	Proportion of students reporting yes (%)			
	I thought another student might hurt me		Some of my friends were hurt by other students	
	1994	1998	1994	1998
Pakeha/European	36	39	53	51
Maori	38	38	64	63
Pacific	33	41	58	64
Asian	27	33	44	51
<i>Other</i>	41	28	64	47

TABLE D.20 YEAR 5 STUDENTS' MEAN MATHEMATICS AND SCIENCE SCORES, BY WHETHER OR NOT ANOTHER STUDENT MIGHT HURT THEM AT SCHOOL IN THE LAST MONTH FOR 1998

At school in the last month I thought another student might hurt me		
Response	Mathematics Mean Score (se)	Science Mean Score (se)
Yes	475 (6.2)	508 (6.5)
No	489 (5.5)	521 (6.1)