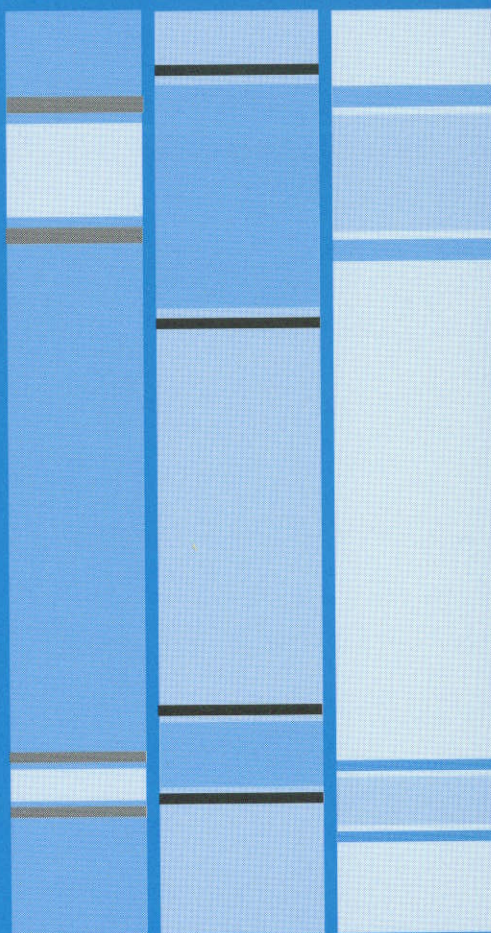


# READING STANDARDS IN NORTHERN IRELAND IN 1996

Greg Brooks  
Vivienne Cato  
Cres Fernandes  
Tom Gorman  
Anne Kispal  
George Orr



*nfer*

for the Department of Education in Northern Ireland

# **READING STANDARDS IN NORTHERN IRELAND IN 1996**

**Greg Brooks  
Vivienne Cato  
Cres Fernandes  
Tom Gorman  
Anne Kispal  
George Orr**

**nfer**  
for the Department of Education in Northern Ireland



**INVESTOR IN PEOPLE**

Published in April 1997  
on behalf of the Department of Education in Northern Ireland  
by the National Foundation for Educational Research  
The Mere, Upton Park, Slough, Berkshire SL1 2DQ

© National Foundation for Educational Research 1997

Registered Charity No. 313392

ISBN 0 7005 1452 0

# CONTENTS

<b>LIST OF TABLES</b>	iv
<b>LIST OF FIGURES</b>	v
<b>PROJECT STAFF</b>	vi
<b>ACKNOWLEDGMENTS</b>	vii
<b>EXECUTIVE SUMMARY</b>	1
<b>CHAPTER 1: INTRODUCTION</b>	3
1.1 The origin of the study	3
1.2 Aims of the study	3
1.3 The structure of this report	4
<b>CHAPTER 2: HOW THE SURVEY WAS CARRIED OUT</b>	5
2.1 Changes from the 1993 design	5
2.2 Date of testing and ages of pupils	6
2.3 The tests	6
2.4 The pupil questionnaires	8
2.5 Administration times	9
2.6 The samples of schools	10
2.7 The samples of pupils	12
2.8 Background data	13
2.9 Marking the tests	14
2.10 Feedback to schools	15
<b>CHAPTER 3: THE MARKERS' VIEWS</b>	16
<i>by George Orr</i>	
3.1 Introduction	16
3.2 Overall judgments	16
3.3 Participation in the exercise	19
3.4 Suggestions for improving the testing process	19
3.5 Interest in participating in future surveys	20
<b>CHAPTER 4: THE RESULTS</b>	21
4.1 Manageability and suitability of the tests	21
4.2 Primary schools' policies on reading	22
4.3 Variables reported and weightings applied	23
4.4 The overall results	24

PUPIL VARIABLES	
4.5	Differences in performance between boys and girls 24
4.6	Pupils receiving and not receiving free school meals 26
4.7	Amount of television viewing 27
4.8	Access to computers 29
4.9	Preschool education (pupils aged 8 and 11) 31
4.10	Home literacy activities (pupils aged 8 and 11) 34
4.11	Pupils who had or had not been tested on entry to school (ages 8 and 11) 36
4.12	Mixed-age classes (pupils aged 8 and 11) 37
SCHOOL VARIABLES	
4.13	School location 38
4.14	Catholic and Protestant pupils 39
4.15	Schools' GCSE achievement 40
COMPARISONS WITH PREVIOUS SURVEYS AND BETWEEN AGES	
4.16	Comparisons over time 41
4.17	Comparisons between ages 43
4.18	Estimates of progress 44
<b>CHAPTER 5: DETAILED COMMENTARY ON TWO TASKS</b> 46	
5.1	<i>Reading Ability Series level A</i> <i>by Anne Kispal</i> 46
5.2	APU Test 6: <i>Dietary Details</i> <i>by Tom Gorman</i> 52
	Annex to Chapter 5: Item data on both tests 60
<b>CHAPTER 6: THE ATTITUDES TO READING</b>	
<b>OF PUPILS AGED 14</b> 70	
<i>by Vivienne Cato and Greg Brooks</i>	
6.1	The questionnaire 70
6.2	Enjoyment of reading 71
6.3	Ease or difficulty of reading 72
6.4	Independence in reading 73
6.5	Reading preferences 73
6.6	Favourite books and authors 76
6.7	Reading habits 78
6.8	The factor analysis 79

<b>CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS</b>	82
7.1 Conclusions on procedures	82
7.2 Main results	83
7.3 Recommendations	85
<b>REFERENCES</b>	89
<b>APPENDICES</b>	91
Appendix A: Previous reading surveys in Northern Ireland	91
A.1 The NICER survey of 1972	91
A.2 The APU surveys of 1979–88	92
A.3 The NFER survey of 1993	93
Appendix B: Primary level questionnaire	95
Appendix C: Attitudes to reading questionnaire for pupils aged 14	96
Appendix D: Numbers of schools drawn, participating and not participating	104

## LIST OF TABLES

Table 2.1: Stratifying variables used	10
Table 2.2: Numbers of schools drawn and returning tests, by age of pupils	11
Table 2.3: Dates-of-birth ranges of pupil cohorts tested	12
Table 2.4: Numbers of pupils for whom tests and questionnaires were returned, by age	12
Table 2.5: Numbers of each test and questionnaire returned, by age of pupils	13
Table 2.6: Background pupil and school data collected	14
Table 4.1: Teachers' opinions of the suitability of the tests	21
Table 4.2: Numbers of schools with policies on various aspects of reading	22
Table 4.3: Pupil and school variables used in calculating and reporting results	23
Table 4.4: Overall results, by age and test	24
Table 4.5: Numbers of children aged 8 and 11 who had received various forms of preschool education	33
Table 4.6: Average scores of pupils in schools in different locations, age 8	38
Table 4.7: Average scores of pupils in schools in different locations, age 11	38
Table 4.8: Average scores of pupils in schools in different locations, age 14	38
Table 4.9: Comparisons with previous surveys, age 8 (average standardised scores on <i>Reading Ability Series</i> level A)	42
Table 4.10: Comparisons with previous surveys, ages 11 and 14 (average raw scores on APU tests 2, 3 and 6)	43
Table 6.1: Enjoyment of private reading	71
Table 6.2: Independence in reading	73
Table 6.3: Pupils' attitudes to reading and computers	74
Table 6.4: Pupils' preferences for comics, etc.	75
Table 6.5: 'Top Ten' genres of reading material	76
Table 6.6: Reading preferences and test performance	78
Table 6.7: Four main factors in pupils' attitudes to reading	80
Table 6.8: Correlations between four main attitude factors and test performance	81

## LIST OF FIGURES

Figure 2.1: Occasions of use of APU tests 2, 3 and 6	7
Figure 4.1: Average scores of boys and girls, age 8	25
Figure 4.2: Average scores of boys and girls, age 11	25
Figure 4.3: Average scores of boys and girls, age 14	25
Figure 4.4: Average scores of pupils receiving and not receiving free school meals, age 8	26
Figure 4.5: Average scores of pupils receiving and not receiving free school meals, age 11	27
Figure 4.6: Average scores of pupils receiving and not receiving free school meals, age 14	27
Figure 4.7: Amount of television viewing and test performance, age 8	28
Figure 4.8: Amount of television viewing and test performance, age 11	28
Figure 4.9: Amount of television viewing and test performance, age 14	29
Figure 4.10: Access to computers and test performance, age 8	30
Figure 4.11: Access to computers and test performance, age 11	30
Figure 4.12: Access to computers and test performance, age 14	31
Figure 4.13: Preschool education and test performance, age 8	34
Figure 4.14: Preschool education and test performance, age 11	34
Figure 4.15: Home literacy activities and test performance, age 8	35
Figure 4.16: Home literacy activities and test performance, age 11	36
Figure 4.17: Average scores of Catholic and Protestant pupils, age 8	39
Figure 4.18: Average scores of Catholic and Protestant pupils, age 11	39
Figure 4.19: Average scores of Catholic and Protestant pupils, age 14	40
Figure 4.20: Average scores of pupils aged 14, by schools' level of GCSE achievement	40
Figure 5.1: Example of response to question on bodily functions of salt	54
Figure 5.2: Example of satisfactory flowchart on dietary fibre	55
Figure 5.3: Some 14-year-old pupils' comments on the <i>Dietary Details</i> task	59
Figure 7.1: A pattern of 'same-cohort' surveys	86
Figure 7.2: Possible future use of APU tests 2 and 3	87
Figure 7.3: Possible future test pattern	88



## PROJECT STAFF

Dr Greg Brooks, Senior Research Officer and Project Director

Ms Vivienne Cato, Consultant, London

Mr Cres Fernandes, Senior Research Officer and Project Statistician

Dr Tom Gorman, Consultant, Worcestershire

Ms Anne Kispal, Senior Research Officer

Mr George Orr, Consultant, Lisburn (formerly Staff Inspector for Primary Education, Education and Training Inspectorate, Northern Ireland)

Ms Effie de Souza, Project Secretary.

The analysis of markers' views in chapter 3 was contributed by George Orr. To do so, he gathered the views of all seven markers, of whom he was himself one. He also recruited the other markers, and arranged the venue for the markers' training day in Belfast. In chapter 5, the commentary on pupils' performance on *Reading Ability Series* level A was contributed by Anne Kispal, and that on *Dietary Details* by Tom Gorman. Part of the commentary in chapter 6 on the attitudes to reading of pupils aged 14 was based on the analysis carried out by Vivienne Cato for the interim report on the NFER's evaluation of the Knowsley Reading Project (Cato *et al.*, 1994). All the statistical analysis was carried out by Cres Fernandes. The remainder of the report was the work of Greg Brooks.

## ACKNOWLEDGMENTS

We should like to record our appreciation to

- the five Education and Library Boards and the Council for Catholic Maintained Schools, for permission to approach schools
- the markers in Northern Ireland: Mrs Rose Dillon, Mrs Maureen Gibson (key stage 1); Mrs Deirdre Ferguson, Mr Ronnie Hassard, Mrs Geraldine McGarvey, Mr George Orr, Mrs Jackie Patterson (key stages 2 and 3)
- our colleague, Dr Stephen Sizmur, for comments on the report
- Mr James Howcroft for doing much of the clerical and logistical work
- Ms Effie de Souza for typing, Ms Mary Hargreaves for laying out the pages, Mr Tim Wright for designing the covers, and Dr Enver Carim for overseeing publication

and especially

- all the schools and pupils in the province who took part: without their cooperation none of this project would have been possible.



# EXECUTIVE SUMMARY

## Aims of the study

A survey of the reading standards of pupils in Northern Ireland aged 8, 11 and 14 was carried out in May 1996. The principal aims of the survey were to

- ◆ provide reliable estimates of the current standards of reading attainment of pupils aged 8, 11 and 14 in Northern Ireland; and
- ◆ permit comparisons with the results of previous surveys, especially the Northern Ireland survey of 1993.

Subsidiary aims were to

- ◆ investigate the attitudes to reading of pupils aged 14, and
- ◆ make recommendations for future monitoring in the province.

Relating teaching methods to achievement, and/or drawing out implications for teaching, was *not* an aim of the survey.

## Brief outline of the methodology

Representative random samples of schools, and of pupils within schools, were drawn. The pupils were asked to attempt tests appropriate to their age; pupils aged 14 were also asked to complete a questionnaire on their attitudes to reading, and those aged 8 and 11 to complete a brief questionnaire providing background information. All the tests had been used in previous surveys. The markers for the tests all had substantial teaching experience in Northern Ireland, and both the markers and the participating schools provided comments.

## Conclusions

The quantity of responses was sufficient to provide a statistically sound database. The 144 schools which participated returned 4711 tests and 2959 questionnaires on behalf of 2959 pupils, and these provided the basis for the following results.

- ◆ Girls' scores were on average higher than boys'.
- ◆ Pupils not receiving free school meals achieved higher mean scores than those receiving free meals.
- ◆ Pupils who watched five or more hours television per school day had significantly lower scores than those who watched less, but this probably meant that children who had difficulty with reading watched more TV, rather than vice versa.
- ◆ At age 8, pupils who had attended a nursery before school entry had a higher average score than those who been to playgroup, who in turn scored higher than children who had experienced neither form of preschool education. At age 11, the differences on this factor were small.
- ◆ At age 14, pupils in schools with high GCSE results had much higher average scores than others. This difference corresponded almost exactly with the divide between grammar and secondary schools.
- ◆ The attainment of Catholic and Protestant pupils was very similar; differences in performance were less marked than in 1993.
- ◆ At age 14, most pupils enjoyed reading, and their attitudes to it were mainly positive (girls' attitudes being more positive than boys'), though over half preferred watching television to reading. There was a strong relationship between positive attitudes and higher test performance.
- ◆ The results appeared to show satisfactory progress in reading between ages 8 and 11. Progress between ages 11 and 14 could not be reliably estimated.
- ◆ Comparisons with the 1993 survey showed little change at age 8 and a substantial improvement at age 11. At age 14 the 1993 data did not provide a reliable basis for a judgment on the trend of performance.

## **Recommendations**

Monitoring should be continued, in order to provide reliable and up-to-date information on the performance of the education system. In particular, the next survey should take place in 1999. On that occasion, if possible, the survey should be coordinated with a proposed survey at age 8 in England and Wales, and new instruments should be devised, and used alongside the existing tests, so that the existing tests can thereafter be discarded.

## CHAPTER 1 INTRODUCTION

### 1.1 The origin of the survey

In 1996, the Department of Education in Northern Ireland (DENI) commissioned the National Foundation for Educational Research (NFER) to mount a monitoring survey in the province of the reading standards of pupils aged 8, 11 and 14 (Northern Ireland school years 4, 7 and 10), and this is the report of that survey. The investigation began in January 1996, and was completed in September 1996. It was specifically designed to replicate and update most of the previous survey, which had been carried out in 1993 (Brooks *et al.*, 1995), but several recommendations made as the result of the 1993 study were incorporated in the design. In particular, the samples of schools and of pupils were larger, both to make this a full monitoring survey rather than a feasibility study, as the 1993 exercise had been, and to avoid the statistical problems which the low response rate then had caused.

### 1.2 Aims of the study

The principal aims of the survey were to

- provide reliable estimates of the current standards of reading attainment of pupils aged 8, 11 and 14 in Northern Ireland; and
- permit comparisons with the results of previous surveys, especially the Northern Ireland survey of 1993.

Subsidiary aims were to

- investigate the attitudes to reading of pupils aged 14, and
- make recommendations for future monitoring in the province.

Relating teaching methods to achievement, and/or drawing out implications for teaching, was *not* an aim of the survey; this would have required a much more detailed and complicated investigation.

### **1.3 The structure of this report**

A brief history of the monitoring of reading standards in Northern Ireland is given in Appendix A, and a description of how the 1996 survey was carried out in chapter 2. The views of the teachers who marked the tests are stated in chapter 3, the test results in chapter 4, the attitudes to reading of pupils aged 14 (and the relationship of those attitudes to test results) in chapter 6, and conclusions in chapter 7. Chapter 5 gives a detailed commentary on performance on two of the tasks used.

## CHAPTER 2

# HOW THE SURVEY WAS CARRIED OUT

### 2.1 Changes from the 1993 design

Much of the survey design was identical to that of the previous survey, including the reporting of comparative results for Catholic and Protestant pupils (the 1993 survey was the first time this was done). However, DENI and NFER agreed two major deletions from the 1993 design, and several extensions. The major deletions were that:

- there was no survey of pupils aged 15/16 (Northern Ireland school year 12), and
- only one or two (rather than three or four) tests were used at each age tested.

Testing of 15/16-year-olds was deleted in 1996 both to avoid overloading pupils in their GCSE year, and because in 1993 there was a ceiling effect on the tests used at that age, such that progress between ages 14 and 15/16 was obscured. The number of tests was reduced both to avoid overloading pupils, and because some of the tests used in 1993 had been 'released', in the sense that they were reproduced in the report (Brooks *et al.*, 1995) with a commentary on performance on the individual items. It had also been concluded in 1993 that fewer tests would provide an adequate statistical base.

The major extensions in 1996 were that

- pupils aged 14 completed a questionnaire on their attitudes to reading (see chapter 6) in addition to two tests
- a wider range of background information was collected (see section 2.8, and relevant sections of chapter 4)
- all schools were eligible to be sampled – in 1993 small schools had been excluded
- the samples of schools and of pupils were larger, both to make this a full monitoring survey rather than a feasibility study, as the 1993 exercise had been, and to avoid the statistical problems which the low response rate then had caused.

Smaller changes are noted below.



## 2.2 Date of testing and ages of pupils

The survey was carried out in May 1996. This was one month earlier in the school year than the 1993 survey at these ages. The change was made because in 1993 some schools had found June an awkward time for testing, and the change of month appears to have been successful – in 1996 there was only one complaint about the timing of the survey.

The mean ages of the three samples of pupils were 8 years 4 months, 11 years 4 months and 14 years 4 months. These were in each case one month younger than in 1993, but still gave a close match.

## 2.3 The tests

Because the timescale of the project was short, there was no opportunity to develop new tests. Therefore, all the tests used in the project were existing ones, and they were a subset of those which had been used in the 1993 survey. This procedure afforded close comparability between the two occasions.

At each age, the design was such that each pupil attempted both a narrative and an expository text. These text types were chosen on the basis that they are the two most frequently encountered, both in school and outside it.

Pupils aged 8 attempted level A of the *Reading Ability Series* (Kispal *et al.*, 1989), which contains both a narrative and an expository passage. In addition to the 1993 survey in Northern Ireland, this test has been used with national samples of 8-year-olds in England and Wales on three occasions (1987, 1991, 1995). Detailed results for Northern Ireland in 1996 and overall data from all five occasions are reported in chapter 4.

The three tests used at ages 11 and 14 were all originally devised for the Assessment of Performance Unit (APU) surveys at ages 11 and 15/16 in 1988 (see Appendix A), and were among the six tests used at ages 11, 14 and 15/16 in Northern Ireland in 1993. Specifically, they were those referred to in the report on the 1993 survey (Brooks *et al.*, 1995) as APU tests 2, 3 and 6. For ease of comparison, they are referred to by the same numerals in this report.

In 1996, test 2 was taken by 11-year-olds, test 6 by 14-year-olds, and test 3 by both age-groups. In 1993, test 2 was taken by 11- and 14-year-olds, test 6 by 14- and 15/16-year-olds, and test 3 by all three age-groups. In 1988 (when the tests were used in England and Wales as well as in Northern Ireland), tests 2 and 3 were taken by 11-year-olds, and test 6 by 15/16-year-olds. To facilitate understanding of the comparisons reported in chapter 4, the pattern of use of these tests is presented in Figure 2.1.

**Figure 2.1: Occasions of use of APU tests 2, 3 and 6**

DATE OF SURVEY	PUPILS AGED		
	11	14	15/16
1988	2, 3		6
1993	2, 3	2, 3, 6	3, 6
1996	2, 3		3, 6

→ = same cohort

N.B. When the term 'same cohort' is used in this report, it means only that the age-group sampled at the later of the two relevant dates was the same group of pupils from whom a different sample was drawn at a younger age at the earlier date. Only by chance would the same *individual pupils* have been tested on both occasions – in other words, this was NOT a longitudinal study.

The use of test 3 at both ages in 1996 was designed to permit a comparison between the two ages. The repeating of tests from 1993 at the same ages in 1996 was designed to permit comparisons over time (including, for 11-year-olds, comparisons back from 1993 to 1988). And since the cohort sampled at age 14 in 1996 was the same cohort that had been sampled at age 11 in 1993, the use of test 3 with this cohort on both occasions was designed to provide a basis for an estimate of progress made in the interim. These comparisons are reported in chapter 4 along with the detailed 1996 results.

Test 3 was based on a short story, and tests 2 and 6 on expository material. All pupils therefore attempted both types of text.

In most of this report, the APU tests used are referred to only by their numerals. This is because tests 2 and 3 have been kept confidential, so that they can be used again in any future surveys. However, it has been agreed between DENI and NFER that test 6 (*Dietary Details*) will not be used again for this purpose, and details of this test and of *Reading Ability Series* level A are given in Chapter 5, where a commentary on pupils' performance on both tests is given.

## 2.4 The pupil questionnaires

Pupils of all three ages were asked to complete a questionnaire. Pupils aged 8 and 11 were asked to complete a very short, specifically-devised questionnaire (reproduced in Appendix B) which was intended solely to gather some extra background information against which performance could be analysed.

Pupils aged 14 were asked to complete a longer questionnaire (reproduced in Appendix C). This questionnaire also contained a number of items designed to gather extra background information; a few of these items covered the same topics as in the primary-level questionnaire.

The bulk of the age 14 questionnaire focused on the pupils' attitudes to reading, and was based on that used in the evaluation of phase 1 of the Knowsley Reading Project (Cato *et al.*, 1994), which was in turn derived from that used in the APU age 11 survey of 1988 (Gorman *et al.*, 1991, pp.54–8).

The use of questionnaires, and particularly their use to collect background information, was an innovation within the 1996 Northern Ireland survey.

The background information items in both questionnaires are described in section 2.8 below. Data from the primary-level questionnaire and from the background information items in the age 14 questionnaire are reported in chapter 4, together with the relationships between those variables and performance. The attitudes to reading of pupils aged 14 are the subject of chapter 6, which also covers the relationship between attitudes and performance.

## 2.5 Administration times

The working times for the six instruments were:

<i>Reading Ability Series</i> level A	60 minutes
APU test 2	45 to 60 minutes
APU test 3	45 to 60 minutes
APU test 6	60 minutes
Questionnaire for ages 8 and 11	5 minutes
Questionnaire for age 14	30 minutes

*Reading Ability Series* level A is a timed test, and strict adherence to the 60-minute working time was specified in the administration instructions. For all the other instruments used, the working times shown above were suggested guidelines.

Pupils aged 8 completed the short questionnaire and *Reading Ability Series* level A in one session, in that order. Allowing a few minutes for setting up and collecting in, the test session for 8-year-olds was about 75 minutes (1993: 150 minutes).

Pupils aged 11 had two testing sessions, on separate days. They completed the short questionnaire and APU test 2 in the first session, in that order, and APU test 3 in the second. Again allowing for administrative time, the first test session for 11-year-olds was about 75 minutes, and the second about 65 minutes, making a total per pupil of about 140 minutes (1993: 200 minutes).

Pupils aged 14 had three sessions, on separate days. They completed APU test 3 in the first session, APU test 6 in the second, and the long questionnaire in the third. The first two sessions for 14-year-olds were therefore about 65 minutes each, and the third about 35 minutes, making a total per pupil of about 165 minutes (1993: 200 minutes).

## 2.6 The samples of schools

Complete lists of schools in Northern Ireland, and of the numbers of pupils of each year-group in each school, were supplied to NFER by DENI. In 1996 there were 956 primary and 229 post-primary schools in the province. In 1993, the numbers of schools which returned tests were relatively small, adequate for a feasibility study, but not for the full monitoring survey which was intended on this occasion. That experience led to the decision to aim for larger samples in 1996; a sample of about 50 schools at each age level would, it was thought, yield an adequate sample of pupils. However, in order to allow for refusal, etc., 80 schools at each level were approached initially (for the 1993 feasibility study, 64 schools had been approached for each of the four samples, with a target of 32 participating at each age). In order to select representative samples of schools to approach, the stratifying variables shown in Table 2.1 were used.

**Table 2.1: Stratifying variables used**

management type (maintained <sup>1</sup> vs other)
sex of pupils in school (single-sex vs coeducational)
area (Belfast Education and Library Board vs rest of province)
* proportion of pupils in school receiving free meals
(at age 14) school type (grammar vs secondary <sup>1</sup> )
* level of achievement at GCSE

The two variables marked with an asterisk were used in this way for the first time. All but the first and last of these variables were used solely for stratifying, that is to ensure a representative sample of schools, and they were not used as reporting variables. However, management type and (at age 14) the school's level of achievement at GCSE were used both for stratifying and as background variables against which to report levels of reading performance.

All schools were eligible to be sampled, and, within the categories of schools defined by the stratifying variables just listed, schools were selected randomly but proportionally to size. The sampling method used in 1993 differed in that small schools (those with fewer than 13 pupils of the relevant age) were not sampled. The approach was changed in 1996 because this was intended to be

---

<sup>1</sup> The terms 'maintained' and 'secondary' are used here in their Northern Ireland senses: 'Maintained', that is, almost entirely funded by the state but mostly managed by the Catholic Church; 'Secondary', formerly called 'secondary intermediate', that is, non-grammar schools (corresponding to the former 'secondary modern' schools in England and Wales).

a full monitoring survey, and it was thought important on this occasion to sample all types of school. The statistical procedure adopted to take account of this change of design when making comparisons over time is described in section 4.16.

Lists of schools which had been selected and for which they had responsibility were sent to each of the five Education and Library Boards and to the Council for Catholic Maintained Schools, and those bodies were given the opportunity to withdraw schools which they felt should not take part; no schools were withdrawn by any of these authorities.

The numbers of schools drawn and finally returning tests are shown in Table 2.2.

**Table 2.2: Numbers of schools drawn and returning tests, by age of pupils**

Age	Numbers of schools		Response rate (%)
	drawn	returning tests	
8	80	51	64
11	80	49	61
14	80	44	55
Total	240	144	60

At each age level the number of schools returning tests was substantially larger than in 1993 (see Brooks *et al.*, 1995, p.9). However, in each case the non-participation rate was rather high – for a summary of schools’ reasons for not participating see Appendix D. The testing for this survey coincided with that for a non-statutory trial of end-of-key-stage tests which were to become statutory in 1997, and which were taken by pupils of exactly the same ages as in this survey. In the letters to schools asking them to participate, the clear distinction in purpose and nature between the end-of-key-stage tests and these surveys was pointed out, but this may not have been entirely successful.

The representativeness of the samples of schools was therefore examined by comparing the proportions of schools in different categories in the samples with the proportions of schools in the same categories in the province as a whole. Minor imbalances in the samples were found; these were corrected by applying weightings to the results (see section 4.3).

Despite the somewhat low participation rate by schools, the numbers of pupils in the samples were satisfactory (see next section). Both the samples of schools and the samples of pupils were substantially larger than in 1993, and more representative.

## 2.7 The samples of pupils

The sampling of pupils was done from lists supplied by the schools of all their pupils of the relevant age. 'Relevant age' was defined in terms of the dates-of-birth ranges which apply to the various school years in Northern Ireland, as defined in Table 2.3.

**Table 2.3: Dates-of-birth ranges of pupil cohorts tested**

Age	Children born between
8	2 July 1987 and 1 July 1988
11	2 July 1984 and 1 July 1985
14	2 July 1981 and 1 July 1982

The differences between the school years which apply in Northern Ireland on the one hand, and in England and Wales on the other, were discussed in the Appendix to Brooks *et al.* (1995).

In each school with pupils aged 8 or 11 which agreed to participate, all the relevant pupils were tested. In each school with pupils aged 14 which agreed to participate, 20 pupils were selected randomly, by date of birth, from the list supplied by the school. The target sample was 1000 pupils at each age (the 1993 target was 400). The numbers of pupils for whom tests and questionnaires were returned are shown in Table 2.4.

**Table 2.4: Numbers of pupils for whom tests and questionnaires were returned, by age**

Age	Number of pupils returning	
	tests	questionnaires
8	1111	1164
11	1024	1021
14	789	774
Total	2924	2959

The numbers returned at all three ages were statistically adequate, even though the numbers at age 14 fell short of the target. The great majority of pupils completed all the items intended for them, but absences meant that a few pupils at each age did not do so. The numbers of each item returned at each age were as shown in Table 2.5.

**Table 2.5: Numbers of each test and questionnaire returned, by age of pupils**

TESTS					QUESTIONNAIRES	
Age	<i>Reading Ability</i> Series level A	APU tests			Primary	Age 14
		2	3	6		
8	1111				1164	
11		1024	1015		1021	
14			789	772		774
Total	1111	1024	1804	772	2185	774

## 2.8 Background data

As mentioned in section 2.4 above, pupil questionnaires were used (for the first time in a Northern Ireland survey) to gather some background information. As usual, however, the majority of the background information was supplied by school principals. The forms of information gathered about the participating pupils and about their schools are listed in Table 2.6. In the Table, forms of information gathered in 1996 which had not been gathered in 1993 are marked with an asterisk, and those supplied by the pupils themselves with a # sign.

School principals were also asked to

- rate the manageability of the testing for their staff and the suitability of the tests for the age of pupils taking them in their school
- (*at ages 8 and 11*) state whether the school had a policy document on various aspects of the teaching of reading, and if so to send a copy to NFER (these requests were innovations), and
- make any other comments they felt were relevant.



**Table 2.6: Background pupil and school data collected**

<p><b>Pupil variables</b></p> <p>date of birth</p> <p>sex</p> <p>whether the pupil was receiving free school meals</p> <p>* # amount of television viewing</p> <p>* # access to computers</p> <p><i>(at ages 8 and 11 only)</i></p> <ul style="list-style-type: none"><li>* what forms of pre-school education the pupil had experienced, if any</li><li>* # home literacy activities</li><li>* whether the pupil had been tested on entry to school</li><li>* whether the tested pupils were in a mixed-age class</li></ul>
<p><b>School variable</b></p> <p>location of the school (e.g. village, inner city)</p>

Data on individual pupils were returned by all schools, and information on location, manageability and suitability by all but seven of the schools which returned tests. Because of this missing information and pupil absences, the numbers of pupils on whom the results reported in chapter 4 are based do not always tally with the numbers given in Table 2.5.

## 2.9 Marking the tests

Seven markers with substantial experience of teaching in Northern Ireland were recruited to mark the tests. Two were teaching in key stage 1, and marked *Reading Ability Series* level A. The rest had experience in key stage 2 and/or 3, and marked the APU tests for both 11- and 14-year-olds. Five of the team had also been markers in 1993; employing them again was intended to ensure as much comparability as possible with the 1993 study.

Each marker was first sent a sample of scripts for the tests he or she was going to mark. Within each of the two 'panels' the members marked identical samples of scripts. They then attended a training day in Belfast; at this, two members of the NFER project team explained the paperwork involved, and took the panels through the scripts they had marked, ensuring that the marking keys were appropriate and that the marking was as consistent as possible.

The marking key used for *Reading Ability Series* level A was the printed one sold with the series. For the APU tests, they were the keys used in the 1993 survey.

Once the marking was completed, all the markers were interviewed about the tests, the pattern of responses, and the implications of the study for the curriculum and for staff development. Their views are reported in chapter 3.

## **2.10 Feedback to schools**

After the survey was complete, each of the schools involved was sent the test results of those of its pupils who had participated. This information was sent out in the form of raw scores, accompanied by essential contextualising data: overall mean score, and maximum score for the test. Schools where 8-year-olds had participated were also sent their pupils' age-related standardised scores on *Reading Ability Series* level A.

## CHAPTER 3 THE MARKERS' VIEWS

*by George Orr*

### 3.1 Introduction

All seven teachers who acted as markers in the 1996 survey participated in a face-to-face interview within a month of completing their work. Each of the seven – two markers at key stage 1 and five at key stages 2/3 – was assured that no comments would be attributed to any individual.

The participating teachers were invited to comment under the following headings:

- (1) **Overall judgements**
  - (a) Quality of material, level of difficulty
  - (b) Clarity of the written questions
  - (c) Helpfulness of the marking scheme
  - (d) Quality of the preparation and training
  - (e) Confidence regarding the findings.
- (2) **Participation in the exercise: the extent to which the marker gained in his/her:**
  - (a) understanding of language and literature
  - (b) knowledge of schools and children
  - (c) professional development and career prospects
  - (d) insights into tests and testing.
- (3) **Suggestions for improving the testing process**
- (4) **Interest in participating in future surveys.**

In addition each teacher was encouraged to offer any additional comments.

### 3.2 Overall judgements

The markers were asked to judge the usefulness of the exercise on a five-point scale.

**Totally positive:** two markers were totally convinced about the value of the survey. They felt confident that it achieved what it set out to achieve. Any minor criticisms were insufficient to modify their judgement.

**Largely positive:** a further two markers felt that the exercise was useful and that the outcomes were valid, but they had some reservations, particularly about the appropriateness of the test material.

**Neutral:** the remaining three markers found the exercise of limited usefulness, expressing concerns about some of the test material and the marking schemes and querying the motivation of the participants.

No one took either a largely negative or totally negative view of the survey.

- (a) Although one or two markers expressed some reservations about the level of difficulty of the materials it was felt generally that they were pitched at the right level. There was complete approval of the materials at key stage 1 but most markers at key stage 2/3 were less happy. There was general agreement that test 2 was suitable, well-presented and a fair test of understanding. The short story in test 3 was felt to be dated, containing language and concepts which would not be familiar to local children, particularly those at the end of key stage 2. They are unlikely to be familiar with terms such as 'pit-singlet', 'under the copper fireplace', 'should chance to hop abroad' or 'Cats! Why do people harbour them?' Even words like 'pedler' and 'parlour' are not in common use. Most markers felt that some of the material in test 6, notably 'What's in a school dinner' and 'Food for thought', was written in a very dense style and was not presented in a user-friendly format. Some markers suggested that there might have been a better response had these passages been carefully edited or broken up by the use of illustrations or tables.
- (b) Most of the questions were considered to be clear and unambiguous, giving a helpful opportunity for children to demonstrate their level of understanding. There were a few questions in the key stage 2/3 exercise where even the most competent children demonstrated a failure to grasp what was being asked. In test 3 the question '[the rabbit] "had the run of the house." Explain why.' almost always elicited a response explaining the meaning of the phrase. The question 'How did the mother feel about the rabbit?' elicited a range of responses which reflected the mother's feelings at different stages in the development of the relationship between the mother and the rabbit. A failure to provide the expected or required answer did not mean that the child had failed to understand the relevant passage.
- (c) Although there was agreement that the marking schemes were generally helpful for most of the questions, most markers had concerns. In particular they expressed concern that they were given insufficient flexibility to respond to some answers on the borderline of correctness. The marking schemes occasionally demanded a narrower interpretation of what was considered correct than the markers would have wished. The

key stage 1 markers, for example, felt that the required answer to the question, 'Why did Aunt Roberta want them to go to hospital instead of using pepper, as Gran had said?' was too circumscribed. Likewise at key stage 2/3 some markers argued that the suggested answers were unacceptably narrow. They were unable to give credit for answers which were correct but incomplete; questions such as 'Why does the writer compare [the rabbit] to a thunderbolt?' frequently elicited a reference to speed or sound but seldom met the requirement of including a reference to both.

- (d) The preparation and training were appreciated by most of the markers. Two or three said there was inadequate time to tease out what might constitute acceptable answers but most expressed satisfaction about their level of preparation for the task. One marker suggested that the training session would have been more useful if she had already marked about a hundred scripts as she would then have been better prepared to raise contentious issues for resolution through consensus; others were less happy with this suggestion.
- (e) All the markers were convinced that the exercise was valuable and that it provided fairly reliable information. It was quite easy to identify those children who had a clear understanding of what they read and those who had failed to grasp the essential gist of the material. Some concerns were expressed about the many children – particularly at key stage 3 – who failed to complete the exercise. The fact that they failed to answer all the questions – on occasions, very many of the questions – raised issues about the motivation of the participants. Did they, perhaps, suffer from 'test fatigue'? Was the exercise, in the summer term, when there would be class tests and end of key stage tests, the best time for the exercise? Did the children take the exercise as seriously as they should? It was generally felt that the results at key stage 3, in particular, possibly did less than justice to the children's true level of understanding. The key stage 1 markers questioned whether the children at the end of key stage 1 should be expected to have the concentration required for an exercise lasting an hour; they also wondered whether the scores were reduced because of the children's ability in writing.

### **3.3 Participation in the exercise**

No one claimed to have gained any insights into the understanding of language and literature through participation in the exercise. They all felt that it was professionally of benefit to see how children in other schools performed – it was reassuring to make comparisons with children whom they themselves taught. One marker had the experience of having her own class undertake the test – though of course she did not mark her own pupils' scripts. She had, however, looked through the scripts unofficially and had found that they reflected very well the abilities of the children as she had personally assessed them. Some markers would have liked to use the tests with their own classes.

All the markers felt that participation in the exercise had benefited them professionally, and indirectly this might enhance their career prospects. They had learnt much about the testing process. In particular they had, since participation in the previous exercise three years before, been more careful in choosing test material, more aware of avoiding ambiguity in questioning, and more tolerant of pupils' interpretation of what they read.

Both key stage 1 teachers, independently of each other, made a very telling point. They had tended in the past to concentrate on promoting inferential comprehension. They had both observed during this exercise that many children who coped well with demanding questions failed to answer simpler questions which demanded only the repetition of simple information. They both felt that they would in future pay more attention to ensuring that the children read the passage more carefully and were better equipped to retain basic information.

### **3.4 Suggestions for improving the testing process**

There were several suggestions about ways of improving the testing process.

A key stage 1 marker felt that at that level the provision of a set of multiple-choice answers would have removed the writing element from the equation. Another key stage 1 marker suggested that a lead-in to the answers would have helped to steer the children towards the required answer while still providing a genuine test of understanding.

It was suggested that the children – particularly those who were older – might take the exercise more seriously during the first or second term of the school year.

Although it was recognised that it would be much more expensive to undertake oral one-to-one testing, most markers felt that it would be very useful for each marker to conduct an oral test – using the same test material – with a sample of those who had already undertaken the written test. It would be possible to ask for clarification or amplification, to obviate any misunderstanding of the questions by re-phrasing them and to make use, if necessary, of simple prompts to elicit information about the child’s understanding of what he or she has read. Most markers felt that such an exercise would probably indicate that the children’s scores would improve.

### **3.5 Interest in participating in future surveys**

Although, as this report indicates, several markers expressed some concerns about the exercise and suggested some modifications for the future, most felt that it had value and that participation as a marker had been professionally rewarding. All indicated that they would be prepared to participate in a similar capacity in any such future exercise.

## CHAPTER 4 THE RESULTS

In this chapter, schools' views on the manageability and suitability of the tests are presented first. The second section states the findings on primary school reading policies. Section 4.3 gives some background to the calculation of test scores, and section 4.4 states the overall results. Sections 4.5-4.12 relate the results to the various pupil variables investigated, and sections 4.13-4.15 to the school variables. The last three sections attempt to provide comparisons of the 1996 results with those of previous surveys, comparisons between ages on the 1996 results, and estimates of the progress made by the two older cohorts since 1993.

### 4.1 Manageability and suitability of the tests

Teachers' views on the manageability of the tests were very favourable; only very small numbers considered the testing unmanageable. On suitability there was more variation in opinion, as can be seen from Table 4.1.

**Table 4.1: Teachers' opinions of the suitability of the tests**

Age of pupils	Test	Number of teachers	
		responding	thinking test borderline or unsuitable
8	RAS/A	46	8
11	2	43	11
	3	42	26
14	3	41	11
	6	40	16

*RAS/A = Reading Ability Series level A*

All these reactions represented considerable swings of opinion since 1993, when very few teachers considered any of the tests unsuitable. Test 6 had definitely become dated, and will not be used again. Test 3 was certainly rather demanding for 11-year-olds, both in 1996 and in 1993, but had been used successfully and without objections in the 1988 APU age 11 survey. However, a few teachers on this occasion found the language of the short story used in this test somewhat dated, and on balance it seems that neither this nor test 2 should be used on more than one further occasion.



## 4.2 Primary schools' policies on reading

Participating primary schools were asked if they had written policy documents on four topics relevant to reading and, if so and if they were willing, to send copies of the documents to NFER. The numbers of schools saying they had such policy documents are shown in Table 4.2.

**Table 4.2: Numbers of schools with policies on various aspects of reading**

	Schools with pupils aged	
	8	11
Total number of schools in survey	49	45
<b>Schools with a written policy document on</b>		
– materials for and approaches to the teaching of reading	28	22
– pupils taking school reading books home	30	18
– parental involvement in teaching children to read	20	16
– using other adult volunteers to teach children to read	6	3

The most surprising finding in Table 4.2 was that distinctly fewer than 100 per cent of schools stated that they had written policy documents on these aspects of reading.

Even if copies of all the relevant policy documents had been provided to NFER, the numbers would have been rather small for analytic purposes. In the event, the numbers provided were very low indeed; therefore no document analysis was carried out.

The question of the existence and use of reading policies would appear to be a worthwhile topic for local investigation and policy-making, perhaps along the lines suggested by Keating *et al.* (1996).

### 4.3 Variables reported and weightings applied

Table 4.3 shows the variables against which results were calculated and are reported.

**Table 4.3: Pupil and school variables used in calculating and reporting results**

<b>Pupil variables</b>	
	sex
	free school meals
	television viewing
	access to computers
<i>(at ages 8 and 11 only)</i>	pre-school education
	home literacy activities
	whether or not tested on entry to school
	whether or not in a mixed-age class
<b>School variable</b>	
	location
	management type (Catholic/Protestant)
<i>(at age 14 only)</i>	school's GCSE achievement

In addition, in calculating results for *Reading Ability Series* level A pupils' dates of birth were used, since this is a standardised test with norms adjusted for age.

Because of minor imbalances in the numbers of tests returned, weightings were applied in the calculation of results. This was done on the basis of the proportion of pupils receiving free school meals for all three ages, and for schools' GCSE achievement at age 14 only.

Also, because schools were sampled proportionally to size, the results were weighted proportionally to the sampling, so that the bias in the sampling towards small schools was balanced out.

The procedure adopted to take account of the difference between the 1993 and 1996 methods of sampling schools is discussed at the opening of section 4.16 below.

#### 4.4 The overall results

The overall results for pupils aged 8, 11 and 14 for each test are given in Table 4.4. In that Table, and at the relevant points in each of the remaining Tables and Figures in this chapter (except in sections 4.16-18), the average score, standard deviation and number of pupils are shown. Mean scores and standard deviations are weighted (see above); numbers of pupils are unweighted (or real). Also, in Table 4.4 the maximum possible score for each test is given, and the overall average score is shown as a percentage. Throughout the chapter, statistically significant differences in performance ( $p < 0.05$ ) are indicated with an asterisk.

**Table 4.4: Overall results, by age and test**

Age	Test	Maximum Score	Average score		s.d.	N
			raw	%		
8	<i>Reading Ability Series level A</i>	25	16.0	64.0	6.1	1111
11	APU 2	27	17.3	64.1	5.3	1024
	3	44	17.7	40.2	7.8	1014
14	APU 3	44	22.2	50.4	8.0	771
	6	50	26.5	53.0	11.3	757

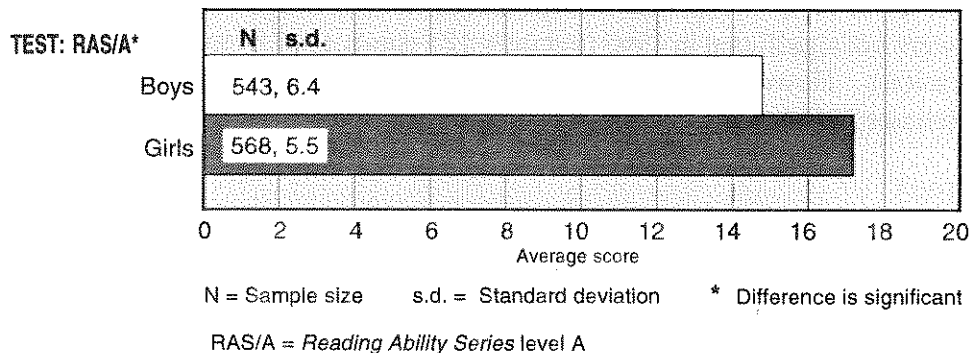
*s.d.* = standard deviation *N* = sample size

## PUPIL VARIABLES

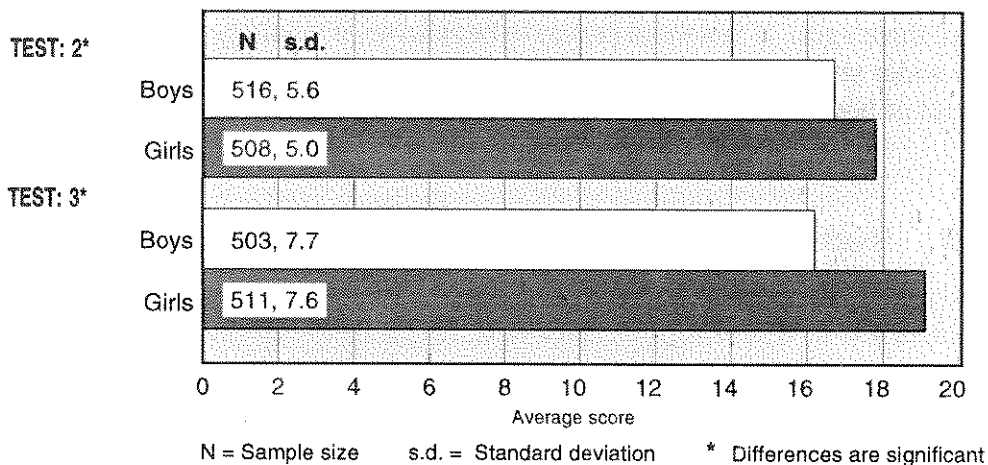
#### 4.5 Differences in performance between boys and girls

The results for boys and girls of the three ages are shown in Figures 4.1-3. These figures show that in every case girls' average scores were higher than boys'; all the differences were statistically significant. These findings were consistent with those of many surveys of language performance.

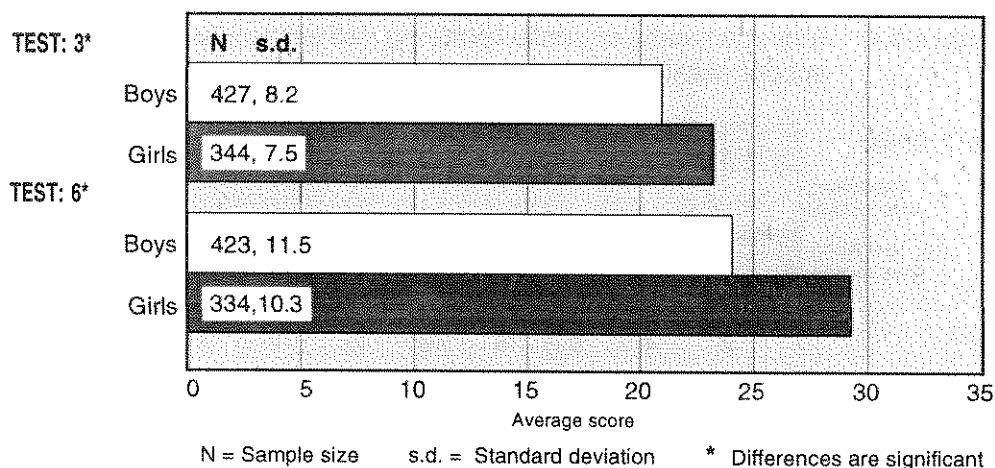
**Figure 4.1: Average scores of boys and girls, age 8**



**Figure 4.2: Average scores of boys and girls, age 11**



**Figure 4.3: Average scores of boys and girls, age 14**



The pattern of differences on *these* tests in 1996 was very similar to that observed in 1993, except that the differences on test 2 at age 11 and test 6 at age 14 were not significant in 1993 (but only 123 pupils aged 14 took test 6 on that occasion). However, from a broader point of view there was an overall difference between the pattern of results on the two occasions.

In 1993

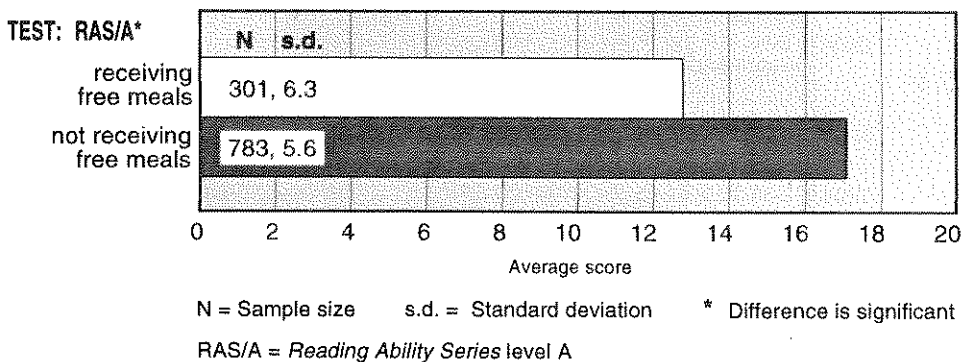
*there did seem to be a tendency for the differences in overall performance between boys and girls to be strongest at age 8, to diminish across the ages tested, and to be weakest at age 16.* (Brooks *et al.*, 1995, p.21)

However, in 1996 the differences on the fewer tests used and fewer ages tested showed no such tendency – the differences were of about the same magnitude at all three ages. If this trend proves to be reliable, it would be consistent with the wider tendency in the United Kingdom for girls’ performance to remain ahead of boys’, rather than (as in the past) for boys to catch up.

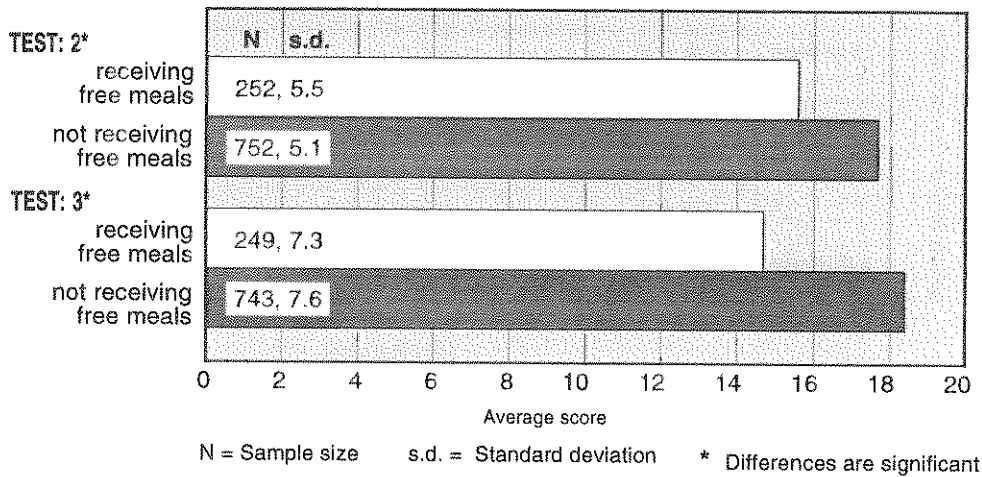
#### 4.6 Pupils receiving and not receiving free school meals

The results for pupils receiving and not receiving free meals are shown in Figures 4.4-6. These figures show that, for all five test results, pupils who were not receiving free meals had higher average scores than those who were; all the differences were statistically significant. The pattern, and the magnitudes of the differences, were very similar to those found in 1993. The results on this variable were unsurprising, but confirmed, again, that material disadvantage continues to be associated with lower educational attainment.

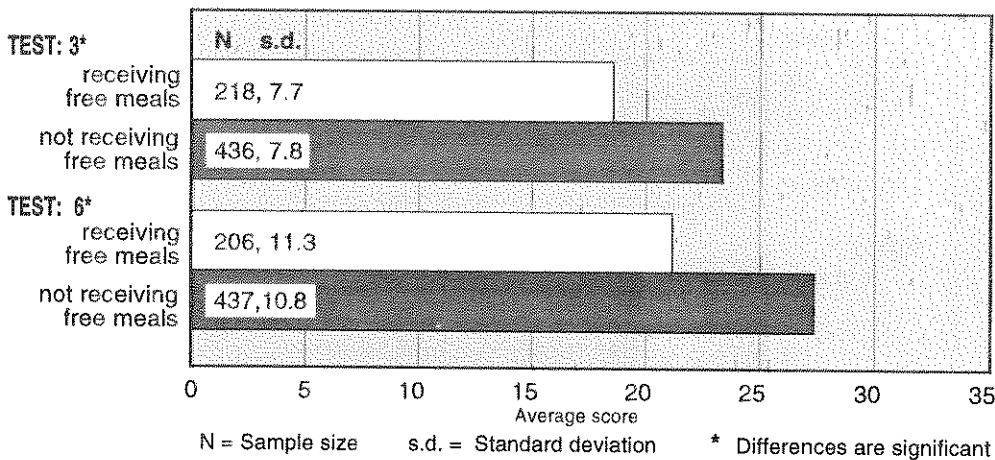
**Figure 4.4: Average scores of pupils receiving and not receiving free school meals, age 8**



**Figure 4.5: Average scores of pupils receiving and not receiving free school meals, age 11**



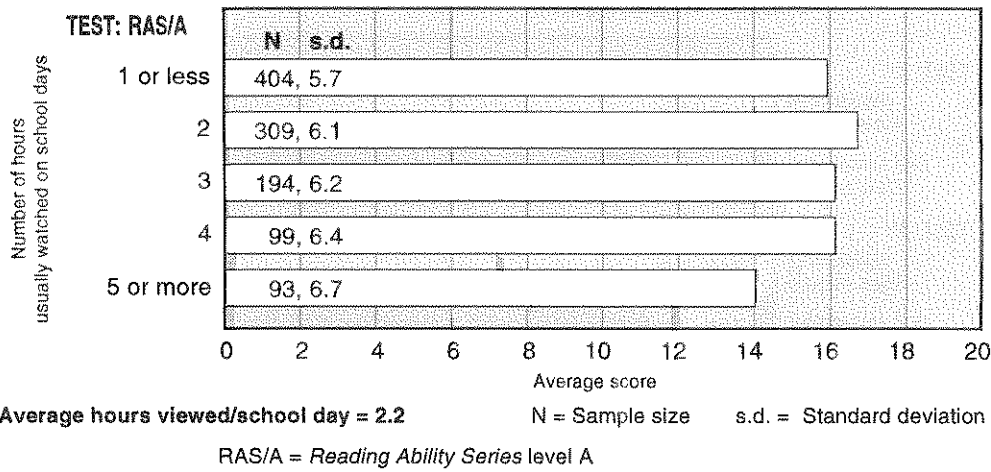
**Figure 4.6: Average scores of pupils receiving and not receiving free school meals, age 14**



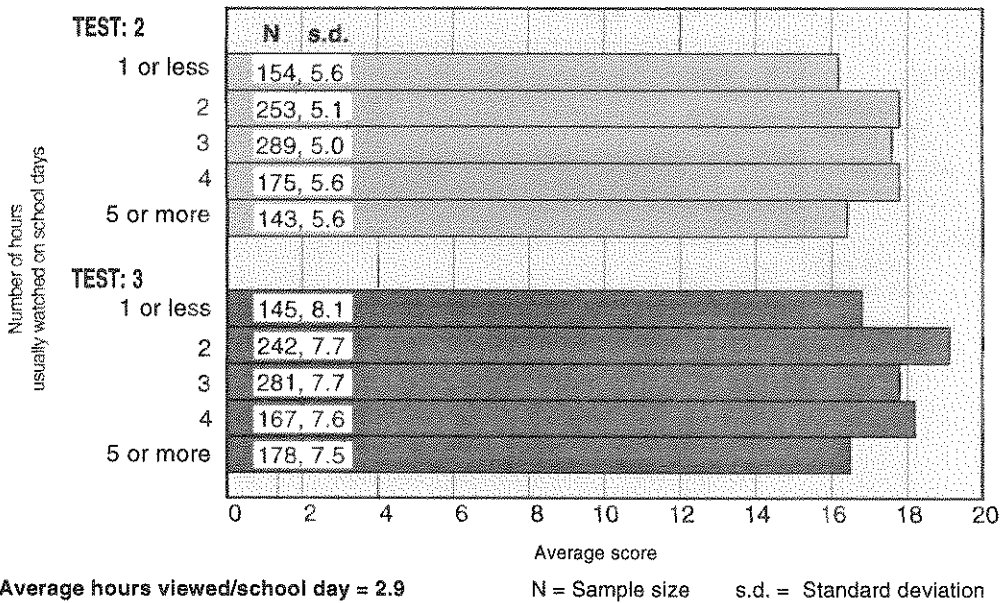
## 4.7 Amount of television viewing

Pupils of all three ages answered a questionnaire item on how much television they usually watched on school days. Their responses are summarised in Figures 4.7-9, which also relate the responses to the pupils' test results. Data for pupils stating they watched 5, 6 or 7 or more hours per day were combined because of the small numbers in each of these categories.

**Figure 4.7: Amount of television viewing and test performance, age 8**

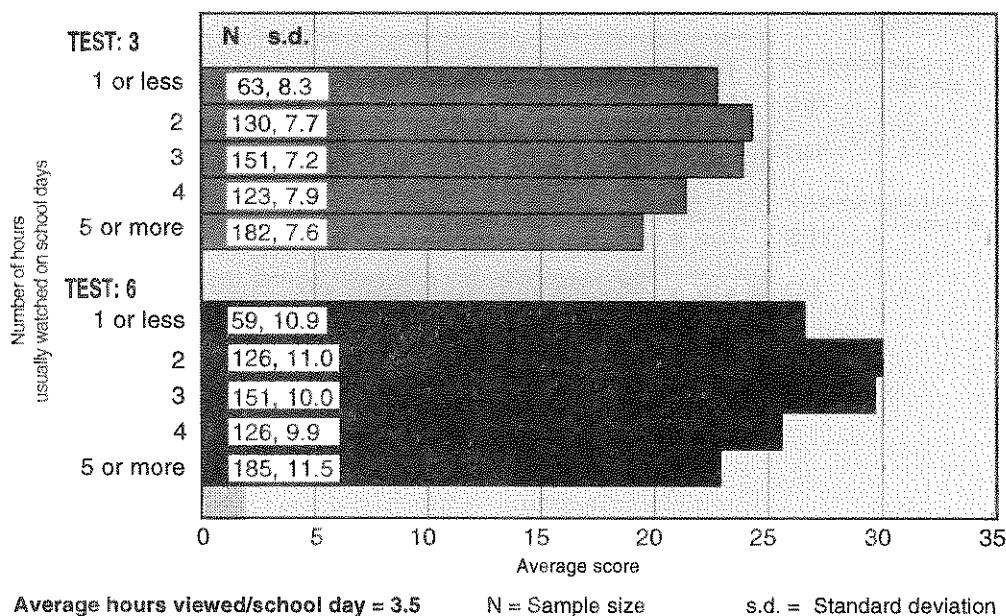


**Figure 4.8: Amount of television viewing and test performance, age 11**



In considering the numbers of hours watched, it needs to be borne in mind that pupils of different ages may differ in the accuracy of their estimates. It should therefore not necessarily be concluded from these figures that amount of television viewing increases with age. The relationship between amount of viewing and test scores is more reliable, especially where a consistent pattern can be seen.

**Figure 4.9: Amount of television viewing and test performance, age 14**



In this case, for most of the five sets of test scores, the lowest average was achieved by children who said they watched five hours or more on a schoolday. But again, it is necessary not to jump to the conclusion that more television viewing caused the lower scores. It is more likely that the relationship is the opposite, that is that children who have difficulty with reading tend to watch more television; and it is also possible that both outcomes were the result of some third factor about which no information is available.

## 4.8 Access to computers

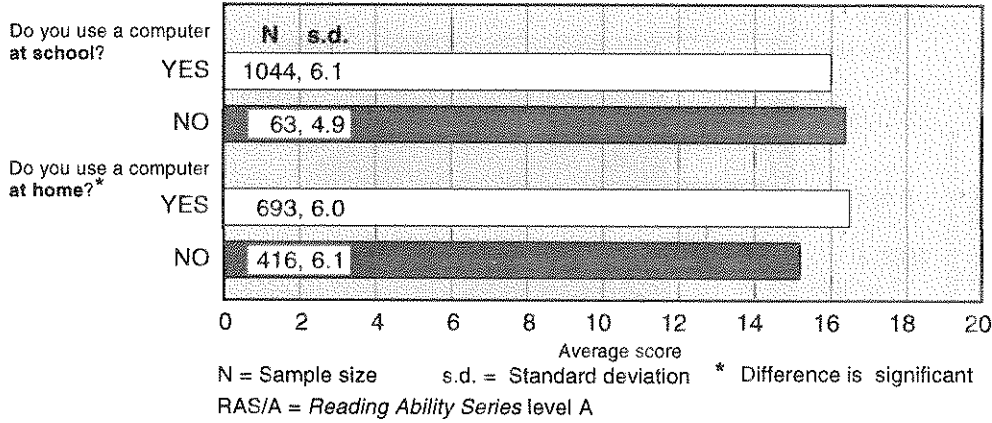
Pupils of all three ages were asked about their access to, or use of, computers at school and at home. Their responses are summarised in Figures 4.10-12, which also relate the responses to the pupils' test scores.

The differences in results between pupils who did use computers and those who did not were mostly very small. There is no obvious explanation for the one large difference (on test 6 at age 14 according to computer use at school) or for the other two statistically significant differences.



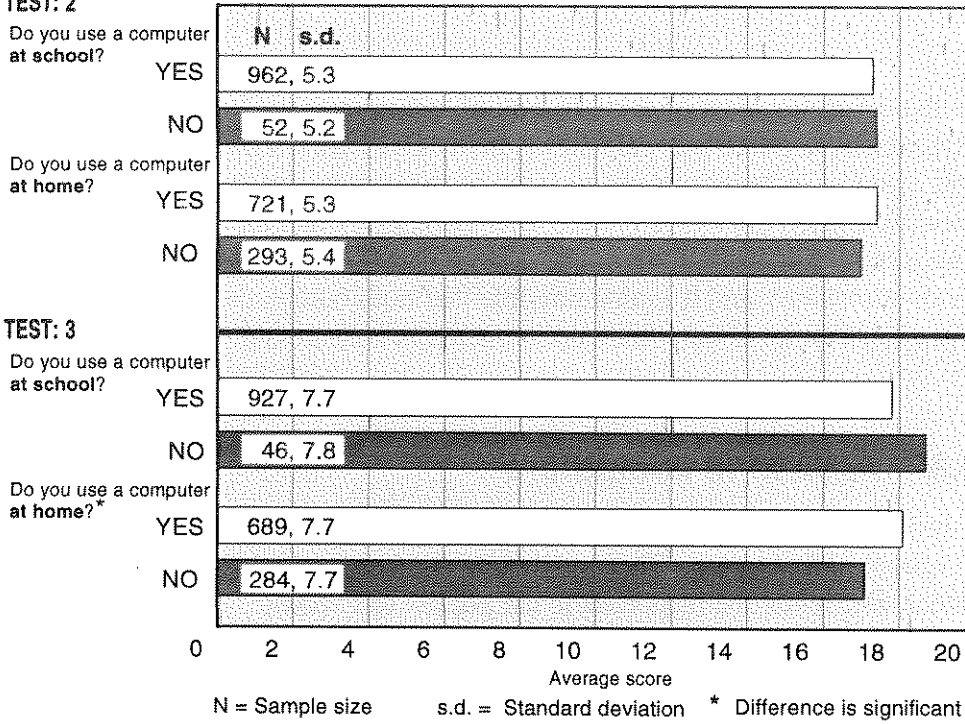
**Figure 4.10: Access to computers and test performance, age 8**

TEST: RAS/A

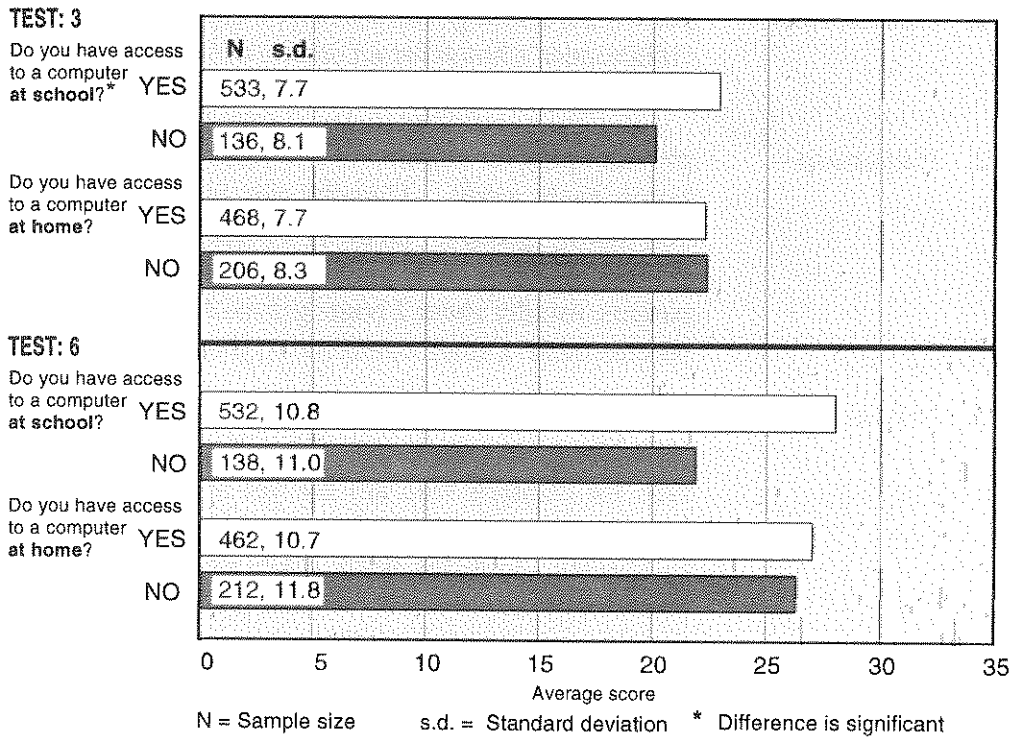


**Figure 4.11: Access to computers and test performance, age 11**

TEST: 2



**Figure 4.12: Access to computers and test performance, age 14**



#### 4.9 Preschool education (pupils aged 8 and 11)

At the time of the survey (and for some time before), there was considerable interest in the relationship between amount of early education, including preschool education, and achievement. The school entry age in the province was lowered from 5 to 4 in 1990, and the evidence from this survey on the impact of that innovation is reported in section 4.16 below. This interest encompassed the relationship between preschool education and achievement, but no previous attempt had been made to gather information on this variable, and the attempt on this occasion was therefore in the nature of a trial run. Primary school principals were asked, if they had access to the information, to state which of their participating pupils had had various forms of preschool education. Following discussions with relevant experts in DENI, the following classification of preschool education was adopted – it is quoted verbatim from the administration instructions to primary schools in this survey:

“Definitions of categories of preschool education

1. **Childminder** – paid by parents or guardians to look after children in the childminder’s home for all or part of the day. May be registered with Health and Social Services Boards.
2. **Playgroup** – provides play for children of 3-4 years of age for a few hours each week. Usually run by voluntary or community groups. Includes **Mother and Toddler groups**, which provide play for toddlers supervised by parents, usually about 2 hours per week. In both cases, parents make a small contribution towards costs.
3. **Private Nursery** that is, a **Private Day Nursery run by private individuals or companies** – provides full or part day care for children who are not yet at school. Some provide after-school care for school children. Paid for by parents. Includes **work place nursery-crèche** – provided by employers at the work place, provides care for employees’ children. Parents contribute to cost.
4. **Grant-aided nursery** that is, **Nursery Schools and Nursery classes attached to Primary Schools** – provide education for 3-4 year old children staffed by qualified teachers and assistants. Provided by the Department of Education at no cost to parents. Please distinguish carefully from category 3.”

Principals were then asked to indicate which of these categories each pupil had experienced; if a particular child had experienced more than one category then all relevant categories were to be marked. Provision was made for stating that a child had experienced none of these forms of preschool education, or that the information was not available.

The basic pattern of the information gained is shown in Table 4.5, which shows that the information was available for all but six per cent of pupils aged 8, and for all but 15 per cent of pupils aged 11; and 84 per cent of pupils aged 8 and 67 per cent of pupils aged 11 had received at least one form of preschool education.

**Table 4.5: Numbers of children aged 8 and 11 who had received various forms of preschool education**

Children aged	8		11	
	Number	%	Number	%
Childminder	68	6	86	8
Playgroup	555	50	300	29
Private nursery	51	5	70	7
Grant-aided nursery	286	26	248	24
None of these	112	10	188	18
Information not available	69	6	151	15
<b>Total</b>	<b>1111</b>	<b>100</b>	<b>1019</b>	<b>100</b>

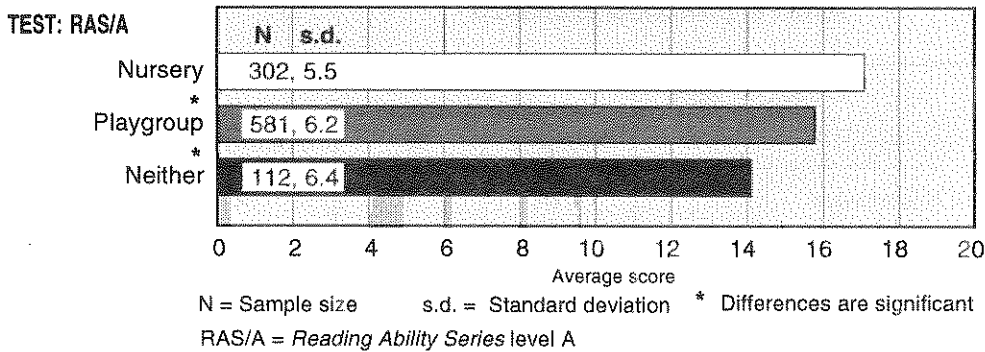
*N.B. Because many children had received more than one form of preschool provision, the categories do not sum to the totals shown. Percentages are calculated on the overall totals shown.*

For the purposes of further analysis, pupils for whom the information was not available were excluded; and the small numbers under 'childminder' and 'private nursery' were amalgamated with 'playgroup' and 'grant-aided nursery' respectively. When this was done, it was found that only 33 children aged 8 and only 25 pupils aged 11 had experienced both playgroup (including childminder) and nursery (of either type); these children were therefore also dropped from the analysis.

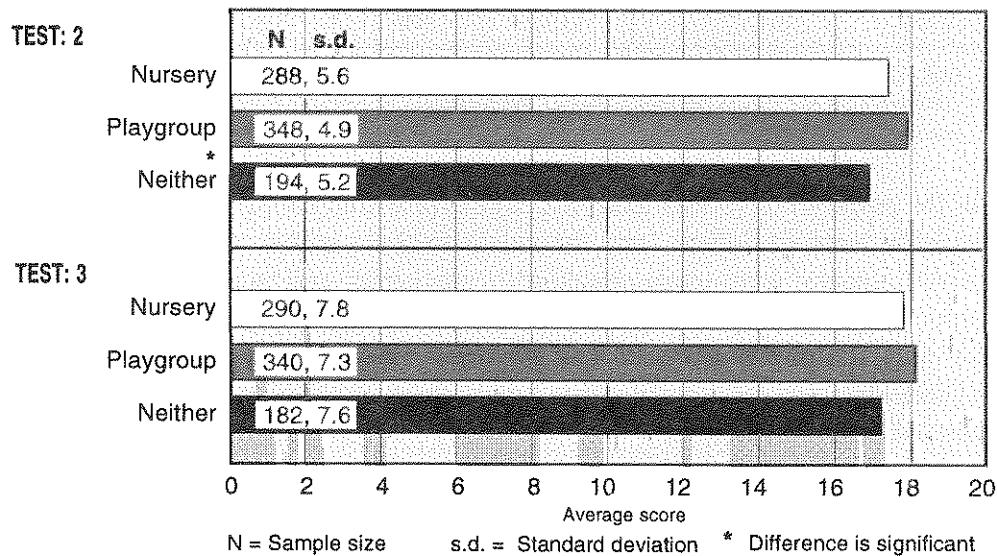
The resulting pattern is shown in Figures 4.13-14, which also show the relationship between the categories and test results.

At age 8, all the differences in average scores were statistically significant. At age 11, only the difference between 'playgroup' and 'neither' on test 2 was significant. These findings may mean only that after six years of full-time schooling any earlier differences had mainly washed out, whereas in 8-year-olds they were still detectable (though these 8-year-olds had entered school at age 4 and had had four years of schooling by this point). On the other hand, the differences at age 8 could be taken to support the general view of the beneficial effect of preschool education, and within that of the greater benefit of nursery over playgroup.

**Figure 4.13: Preschool education and test performance, age 8**



**Figure 4.14: Preschool education and test performance, age 11**



### 4.10 Home literacy activities (pupils aged 8 and 11)

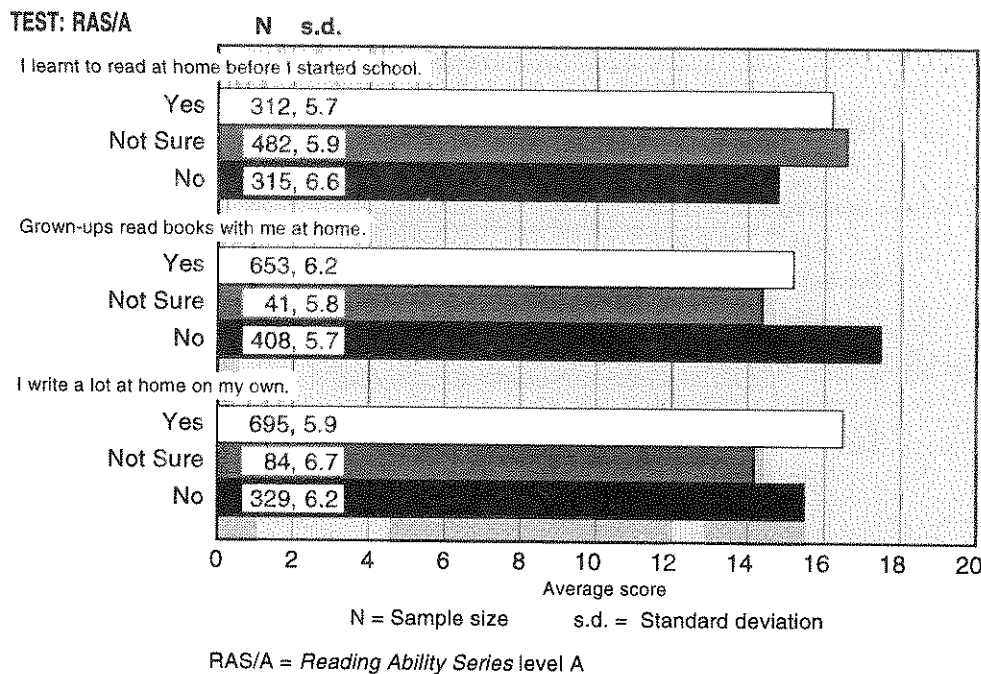
Pupils aged 8 and 11 were asked three questions about literacy-related activities at home. Their responses are summarised in Figures 4.15-16, which also relate the responses to the pupils' test scores.

Notable features of these results were the very low proportions of pupils choosing the 'Not sure' option on adults reading with them at home and on their own writing, and the high proportions choosing that option on whether they

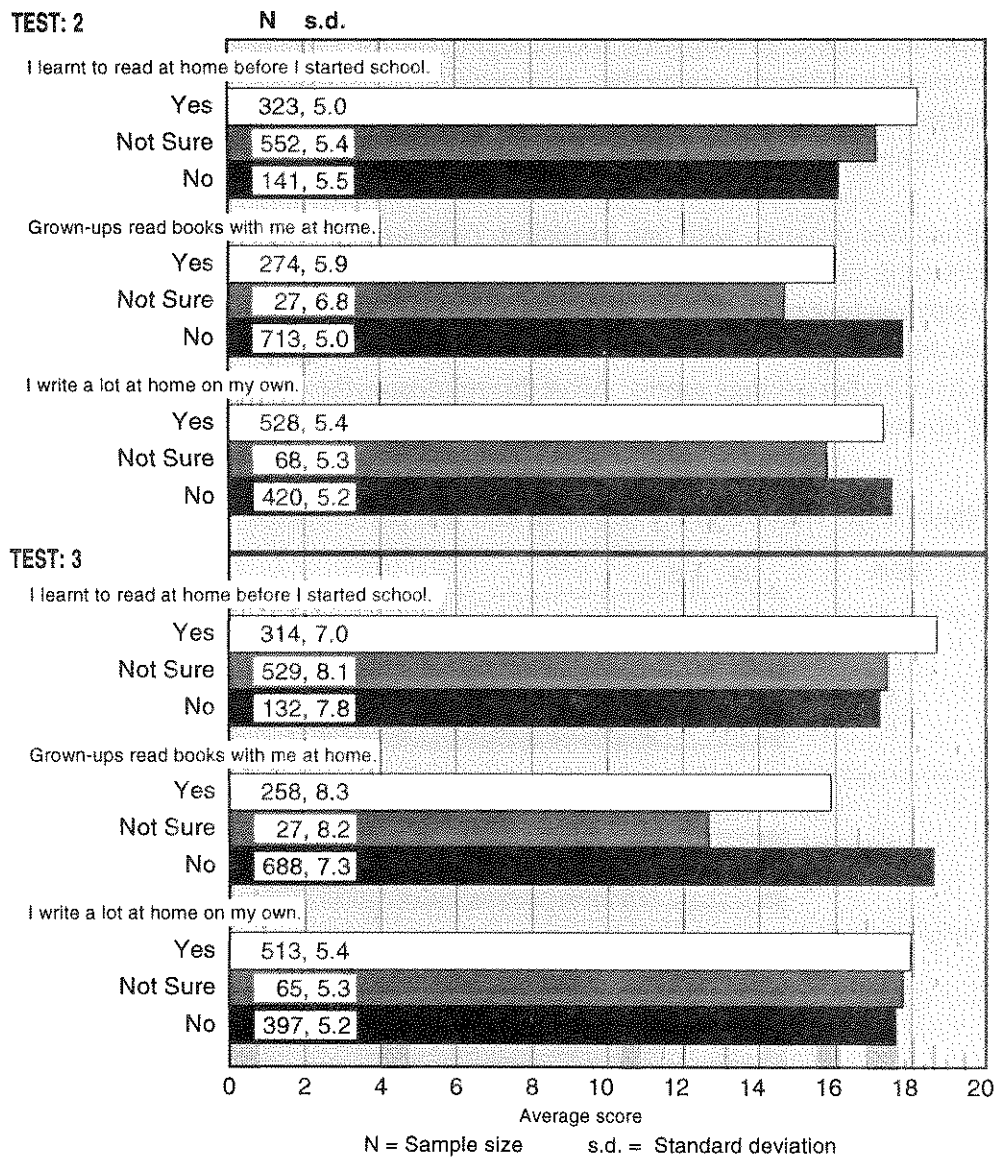
learnt to read before starting school. Both tendencies were plausible, since in the former case pupils were stating what was true for them now, whereas the other item required long-term recall, especially for 11-year-olds. But the high proportions of pupils saying they were not sure about whether they learnt to read before school mean that the results from those who were sure (one way or the other) need to be treated with a little caution.

Given this proviso, with one exception (writing at home, test 2, age 11), the pattern in these results was that independence in literacy was associated with higher reading performance. Pupils who learnt to read early, who no longer had adults reading to them at home, and who wrote a lot at home on their own tended to have higher average scores. All of this reinforces the well-known importance of an early start to literacy learning.

**Figure 4.15: Home literacy activities and test performance, age 8**



**Figure 4.16: Home literacy activities and test performance, age 11**



### 4.11 Pupils who had or had not been tested on entry to school (ages 8 and 11)

Primary school principals were asked to state, both for pupils aged 8 and for pupils aged 11, whether or not individual pupils had been tested on entry to school; the option of saying that the information was not known was also available. For the pupils aged 11 in this survey, school entry would have been mainly at age 5 in 1990; for those aged 8, it would have been mainly at age 4 in 1992. The 11-year-olds were the last cohort for whom entry could be at age 5;

they would have entered school at the same time as the next cohort, since entry at 4 became compulsory in the province in 1990. The intention of gathering this information was to investigate whether having been tested or not at entry was associated with later differences in performance.

The principals were able to supply the information for the great majority of pupils at both ages; the numbers for whom the 'not known' option was chosen were 28 (three per cent) at age 8 and 66 (eight per cent) at age 11.

At age 11, however, the overwhelming response was that the pupils had not been tested: of the 730 pupils for whom the information was available, only five had been tested at entry. Therefore no statistical test could be performed on the test results.

Of the 938 pupils aged 8 for whom the information was available, 189 (20 per cent) had been tested at entry; their average raw score on *Reading Ability Series* level A was 16.3, whereas that of their 749 peers who had not been tested was 16.1. This difference was not significant.

The proportion of pupils tested at entry had therefore grown considerably between 1990 and 1992, but was still a minority. Because the numbers tested were small, the non-significant difference in performance at age 8 would seem to have no implications for policy in this area, in either direction.

Since the numbers tested on entry have been growing, the question's viability may increase in any future surveys.

#### **4.12 Mixed-age classes (pupils aged 8 and 11)**

Primary principals were asked to state whether or not the pupils who were tested in their school were drawn from a mixed-age class. The purpose of gathering this information was to investigate whether being in a mixed-age or single-age class bore any consistent relationship to test performance. At age 8, 161 pupils out of 985 were in mixed-age classes, and the difference in average score between the two groups of pupils was tiny. At age 11, only 70 pupils out of 860 were in mixed-age classes, and the differences in average score between the two groups of pupils were quite small, and in opposite directions on the two tests. In so far as these results were reliable, they appeared to show that being in a mixed-age or a single-age class had little effect on average achievement.



## SCHOOL VARIABLES

### 4.13 School location

The results against this variable are shown in Tables 4.6-8.

**Table 4.6: Average scores of pupils in schools in different locations, age 8**

Location:	Test: <i>Reading Ability Series</i> level A		
	average score	s.d.	N
village	16.1	5.9	232
small town	15.4	6.6	169
rural/urban fringe	17.4	4.7	168
large town	16.2	6.4	390
inner city	11.8	6.8	71

*s.d.* = standard deviation *N* = sample size

**Table 4.7: Average scores of pupils in schools in different locations, age 11**

APU tests:	2			3		
Location:	average score	s.d.	N	average score	s.d.	N
village	16.4	5.2	245	17.0	7.8	239
small town	8.5	4.9	273	18.2	7.7	273
rural/urban fringe	18.2	5.4	157	16.7	7.2	159
large town	17.7	5.1	204	20.2	6.9	201
inner city	18.3	4.6	38	16.6	7.4	38

*s.d.* = standard deviation *N* = sample size

**Table 4.8: Average scores of pupils in schools in different locations, age 14**

APU tests:	2			3		
Location:	average score	s.d.	N	average score	s.d.	N
village	18.0	8.2	56	16.3	10.5	56
small town	23.7	8.0	338	28.9	11.1	333
rural/urban fringe	17.7	7.9	52	21.0	10.8	55
large town	22.8	7.2	215	26.9	9.6	206
inner city	18.7	8.7	53	20.0	12.6	50

*s.d.* = standard deviation *N* = sample size

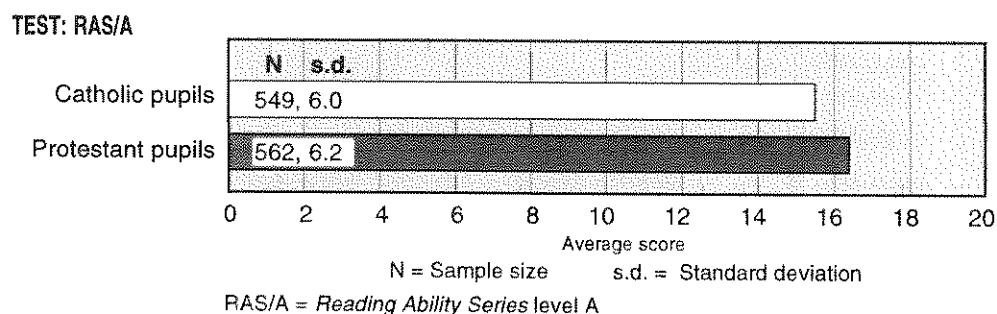
Very little pattern was discernible in these results. In three cases the highest average scores were for schools in small towns, but this was quite different from 1993, when 'in most cases, the inner-city mean score was the lowest' (Brooks *et al.*, 1995, p.25). It may be that location is not a particularly fruitful variable against which to analyse results.

#### 4.14 Catholic and Protestant pupils

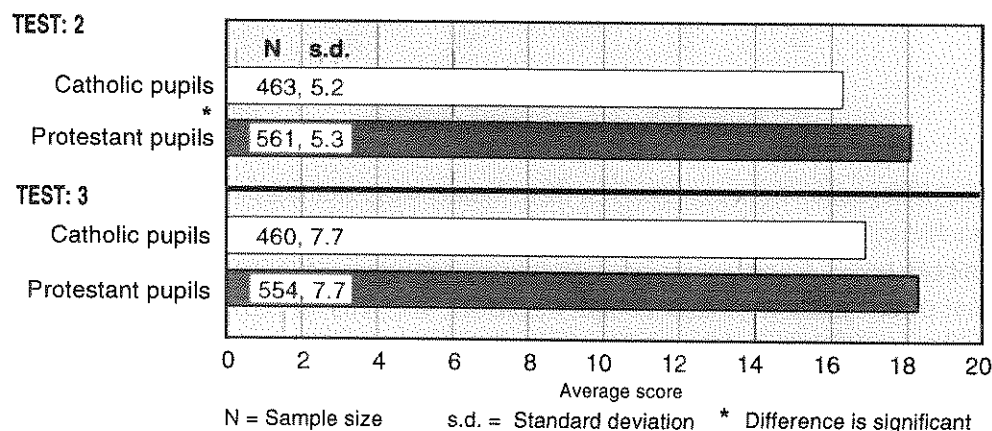
Figures 4.17-19 show the differences in performance between Catholic and Protestant pupils.

In each case, Protestant pupils' average score was higher than that of Catholic pupils, but some of the differences (especially those at age 14) were tiny, and only one (age 11, test 2) was statistically significant. At ages 8 and 14, the small differences represented very little change since 1993. At age 11 in 1993, all five tests used then produced significant differences in favour of Protestant pupils; in 1996 the differences on the two tests used were less marked.

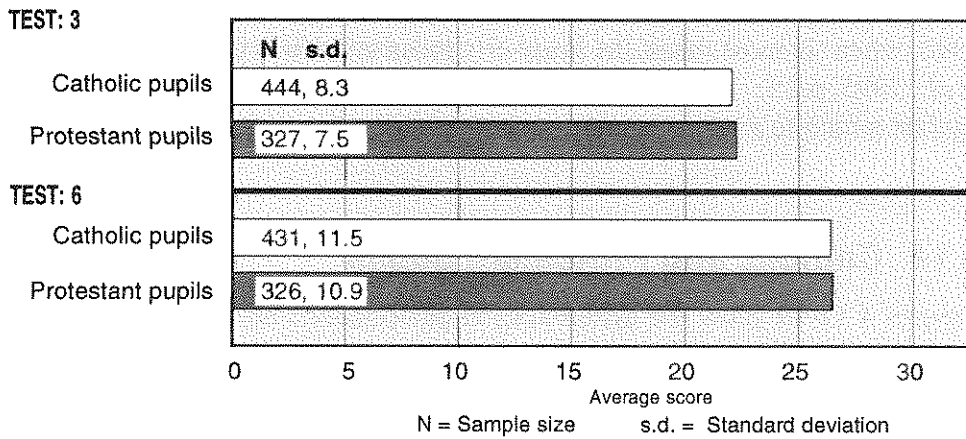
**Figure 4.17: Average scores of Catholic and Protestant pupils, age 8**



**Figure 4.18: Average scores of Catholic and Protestant pupils, age 11**



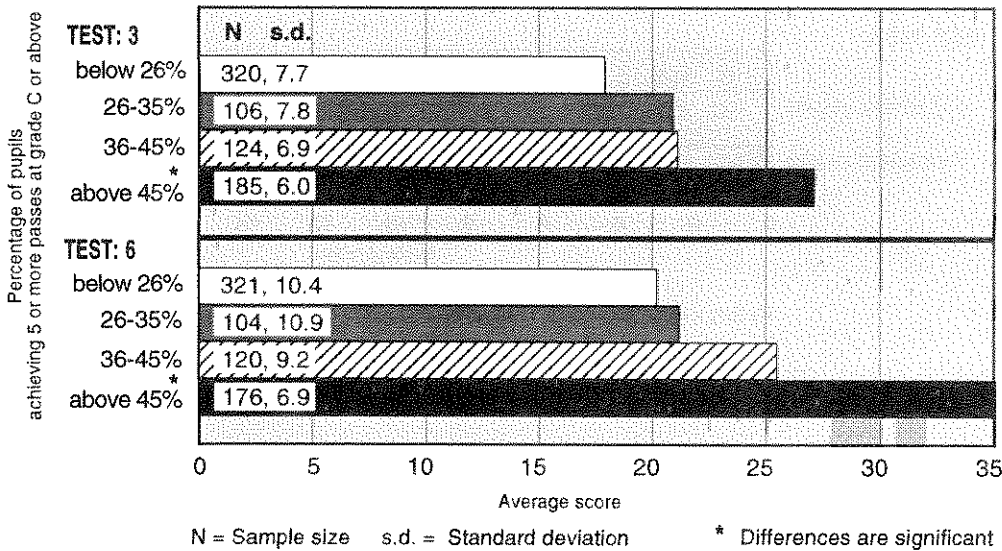
**Figure 4.19: Average scores of Catholic and Protestant pupils, age 14**



### 4.15 Schools' GCSE achievement (pupils aged 14)

The results against this variable are shown in Figure 4.20.

**Figure 4.20: Average scores of pupils aged 14, by schools' level of GCSE achievement**



The differences between the first three bands were not statistically significant, but the differences between those and the fourth band were highly significant on both tests. A further analysis by school type showed that all the pupils in the first three bands were in secondary schools, whereas all but a handful of those in the fourth band (16 and 14 pupils for the two tests respectively) were in grammar schools. This could be interpreted as showing the accuracy of

selection at age 11 – but the ‘self-fulfilling prophecy’ nature of that selection, and its heavy reliance on reading ability, should be taken into account. Also, the fact that even a few of the pupils in the fourth band were in a secondary school shows that that school was producing GCSE results comparable to those of grammar schools.

## **COMPARISONS WITH PREVIOUS SURVEYS AND BETWEEN AGES**

### **4.16 Comparisons over time**

In principle, statistical comparisons could be made (cf. Figure 2.1) between

- pupils aged 8 in 1996 and pupils aged 8 in 1993, on *Reading Ability Series* level A
- pupils aged 11 in 1996 and pupils aged 11 in 1993, on tests 2 and 3
- pupils aged 14 in 1996 and pupils aged 14 in 1993, on tests 3 and 6,

and, for each of these, further qualitative comparisons could then be made with previous uses of the relevant tests.

However, before the 1996 and 1993 scores could be compared statistically, checks had to be made on the effect of the different sampling methods employed. In 1993, small schools (those with fewer than 13 pupils of the relevant age) were excluded, but in 1996 they were included. Analyses were made of the effect on the 1996 results of including and excluding small schools. The differences in average scores were so small as to be statistically insignificant. Comparisons over time were therefore based on the full 1996 data (rather than on just the data from schools with at least 13 pupils of the relevant age, as would have been necessary if there had been large differences).

#### ***Pupils aged 8***

For *Reading Ability Series* level A, there are now data from five surveys:

- the original standardisation of 1987 (Kispał *et al.*, 1989)
- the Comparative Reading Study of 1991 (Gorman and Fernandes, 1992)
- the 1993 Northern Ireland survey (Brooks *et al.*, 1995)
- the Trends in Reading at Eight study of 1995 (Brooks *et al.*, 1997)
- the present, 1996, Northern Ireland survey.

Though the 1987, 1991 and 1995 surveys were carried out in England and Wales, and at a different time of year (March) from the Northern Ireland surveys (May/June), all five average standardised scores are of interest, and they are shown in Table 4.9.

**Table 4.9: Comparisons with previous surveys, age 8 (average standardised scores on *Reading Ability Series level A*)**

	England and Wales			Northern Ireland	
	1987	1991	1995	1993	1996
Average score	100 *	97.5 *	99.8	97	100
N	2376	2170	5337	417	1111

\* = differences are significant    N = sample size

In England and Wales, the 1991 average score differed significantly from the average scores for both 1987 and 1995, which did not differ. This indicates a fall in average attainment between 1987 and 1991, and a return to the 1987 level between 1991 and 1995. The difference between the two Northern Ireland average scores just failed to reach statistical significance ( $p=0.06$ ). It is therefore not possible to state with confidence either whether the lowering of the school entry age in the province from 5 to 4 in 1990 had had an effect on pupils' attainment, or whether the province showed a rise in average attainment in the early 1990s parallel to that noted in England and Wales.

However, it seems that the reading attainment of 8-year-olds in Northern Ireland in 1996 was statistically indistinguishable from that of 8-year-olds in England and Wales in 1995.

#### ***Pupils aged 11 and 14***

The data needed for these comparisons are shown in Table 4.10 (for the 1988 and 1993 data see Brooks *et al.*, 1995, especially Table 9, p.19). The 1988 data are given for England, Wales and Northern Ireland combined because the numbers of pupils taking any one test in Northern Ireland in 1988 were too small to form a basis for separate reporting.

Table 4.10 shows that on both relevant tests at age 11 the 1996 scores were higher than the 1993 scores, and both differences were statistically significant, but the result should be treated with caution, because of the small numbers of pupils and schools involved in 1993, especially on test 3. (The 1996 scores were also higher than those for 1988, but these differences could not be tested statistically.) The difference between the 1993 and 1996 scores appears to show that there had been an improvement in the achievement of 11-year-olds over this period.

**Table 4.10: Comparisons with previous surveys, ages 11 and 14 (average raw scores on APU tests 2, 3 and 6)**

Age	Test		E,W & NI	NI		NI
			1988	1993		1996
11	2	average score	15.6	15.4	*	17.3
		N	1078	305		1024
	3	average score	15.1	16.9	*	17.7
		N	1099	172	* *	1014
14	3	average score	n/a	27.0	*	22.2
		N		263		771
	6	average score	n/a	31.6	*	26.5
		N		123		757

\* = differences are significant

N = sample size

n/a = not available – the APU survey of 1988 did not cover 14-year-olds

Table 4.10 also shows that on the two relevant tests at age 14 the 1996 scores were *lower* than the 1993 scores, and again both differences were statistically significant, again despite the small numbers of pupils involved in 1993, especially on test 6. The superficial interpretation of the changes from 1993 to 1996 would be that there had been a decline in the achievement of 14-year-olds over this period. However, the small numbers involved in 1993 may mean that the findings then were unreliable as a basis for calculating trends over time. This possibility, and its implications, are discussed further in section 4.18.

## 4.17 Comparisons between ages

### *Pupils aged 8 and 11 in 1996*

No statistical comparison of the performance of pupils aged 8 and 11 was possible, because they took different tests, and those tests were not statistically related.

### *Pupils aged 11 and 14 in 1996*

However, a statistical comparison of the performance of pupils aged 11 and 14 was possible, because they did take a common test (no. 3). As shown in Table 4.10, the average scores on this test for pupils aged 11 and 14 were 17.7 and 22.2 respectively in 1996 (in 1993 they were 16.9 and 27.0 respectively). The 1996 difference was statistically highly significant (as was the 1993 difference, despite the smaller numbers involved). This shows that in 1996 pupils aged 14 were, as would be expected, performing distinctly better on this test than pupils

aged 11; this finding was very similar to the general pattern on the four tests used at both these ages in 1993. However, the 1996 difference on test 3 was smaller than that found in 1993; this aspect of the results is discussed in the next section.

#### 4.18 Estimates of progress

The cohorts of pupils sampled at ages 11 and 14 in 1996 were the same cohorts which had been sampled at ages 8 and 11 respectively in 1993. In such circumstances, given an appropriate survey design, a quantitative estimate of progress made by a cohort between the two occasions of testing would be possible. An 'appropriate survey design', however, ideally requires both adequate samples and the use of the same test on both occasions.

##### *Pupils aged 11 in 1996 and pupils aged 8 in 1993*

For this cohort, the second of these conditions did not apply. Neither of the two tests which were used with 8-year-olds in 1993 (*Reading Ability Series* levels A and B) would have been suitable for use with 11-year-olds in 1996 (or at any time). Nor (even supposing the required forward planning had been possible) would any of the tests used with 11-year-olds in 1993 have been suitable for use with 8-year-olds then (as the basis for re-testing on the same instrument in 1996). Estimates of the progress made by this cohort therefore have to remain qualitative. The relevant facts are that

- in 1993, this cohort's average standardised scores on *Reading Ability Series* levels A and B were 97 and 92 respectively, which was slightly low; and
- in 1996, this cohort's average raw scores on tests 2 and 3 (see Table 4.10) were quite high.

This appears to show that **this cohort had made good progress** between 1993 and 1996.

##### *Pupils aged 14 in 1996 and pupils aged 11 in 1993*

A quantitative estimate of progress made by the age 11 cohort of 1993 might be possible, since one of the tests taken by that cohort then (no. 3) was re-used with the new sample from that cohort at age 14 in 1996. The relevant average scores (see again Table 4.10) were: 16.9 (38.4 per cent of the maximum score on this test) in 1993, 22.2 (50.4 per cent) in 1996, a statistically significant difference. However, in 1993 this test was taken by only 172 pupils, and the

difference between the two occasions therefore cannot be interpreted without taking other results into account. The relevant data are the following:

- the 1996 average scores for 14-year-olds both on this test and on test 6 were substantially lower than those found in 1993 (see section 4.16 above) – but the 1993 sample sizes were small (test 3, 263; test 6, 123);
- the difference in performance between 11-year-olds and 14-year-olds on test 3 was much smaller in 1996 than in 1993 (see section 4.17 above) – but the 1993 sample sizes were small (age 11, 172; age 14, 263);
- in 1993, the 1996 age 14 cohort's average standardised score at age 11 on *Reading Ability Series* level D was 95, rather below the 1987 England and Wales standardisation average of 100 (see Brooks *et al.*, 1995, p.31) – but the 1993 sample size was 127; and
- this cohort's performance on tests 2 and 3 in 1993 was lower than the new 11-year-olds' in 1996 (see again Table 4.10 above) – but the 1993 sample sizes were small (test 2, 305; test 3, 172).

However, the interpretation of the 1996 age 14 results in relation to the 1993 results hinges on the 1993 sample sizes. Because those sample sizes were small, and in some cases very small, any deduction based on the 1993 results would be highly problematic. Therefore, no conclusion is drawn here about the trend of achievement of the 1996 age 14 cohort.



## CHAPTER 5

# DETAILED COMMENTARY ON TWO TASKS

This chapter provides a more detailed commentary on two of the tasks used in the 1996 survey. In the annex at the end of the chapter all the item-level data for both tasks are provided.

### 5.1 *Reading Ability Series level A*

*by Anne Kispal*

This test was devised by Anne Kispal in 1987, and was used with 8-year-olds in this survey. It involves children in using two booklets – a *Reading Booklet* containing two of the three pieces of stimulus material and a *Reading Answer Booklet*, which contains the shortest and simplest piece of stimulus material, and in which pupils write their answers. The questions are all open-ended, some requiring one-word answers, others soliciting slightly longer responses. Pupils are not required to respond in full sentences and any errors in spelling, punctuation or grammar are overlooked. During the training of markers it was emphasised that the focus was only on the content of children's responses.

The stimulus materials consist of three increasingly challenging texts. Two are short non-narrative texts:

- ◆ a notice about two lost kittens. Five simple questions (one with two parts) are set on this text;
- ◆ a 'Wonderland Cafe Children's Menu' from a restaurant, with five questions (one having five parts);

The final text is a longer one – a complete short story, entitled '*About the Time I Put a Bead up my Nose*', by Iris Grender, with 10 questions.

Working time is 60 minutes, and the total number of assessable items is 25.

The total number of pupils who completed the test was 1111, of whom 543 were boys and 568 were girls.

## PATTERNS OF RESPONSE

### Bottom Band (Less Able Readers)

#### *Lost Kittens*

The notice on which this task is based is of the variety, often seen attached to trees and in other public places, announcing the loss of a pet. The task is a practical one, requiring pupils to extract several pieces of information from the text in response to questions about the number of kittens lost, their appearance, their owner and how to contact her, and about a reward. This task proved well within the capability of the age group, with over 90 per cent of the children being able to say how many kittens were lost and who their owner was. Both these questions required straightforward retrieval of explicitly stated information. For the least able readers in the sample, however, success stopped here. The subsequent questions, though requiring the pupil to copy explicitly stated information, also necessitated varying degrees of interpretation and proved more difficult for the least able readers. The third question, for instance, asked about the colour of the kittens. Confusion was caused by the fact that the notice mentions three colours, but only two kittens:

**Lost: 2 kittens  
one ginger, one black & white**

The responses of the least able readers often consisted of just two of the colours mentioned. Similarly, the fourth question asked about the reward that would be given for the recovery of the kittens. Many children in this band simply copied £10 – the only reference to a sum of money on the notice. This, however, was not sufficient, as the text explicitly states that the reward is given at the rate of £10 per kitten. The patterns of response would indicate that children in this ability band are often able to identify the appropriate segment of text required to answer a question but are not able to go beyond copying it to reinterpreting or adapting the relevant information to meet the requirements of the question.

#### *Menu*

This task is based on a menu of a type that is now ubiquitous in restaurants which hope to attract families with young children. The menu offers a wide choice of meals for a flat rate of £4.00. The first task for pupils was to complete an order in which they chose one item from each section of the menu. The success rate on this question was stunning, given that pupils needed to select **five** items and

insert each on the appropriate line on the order form. Just under 92 per cent of the sample were able to do this successfully, revealing their ability to recognise and use the classificatory system imposed upon the items in the menu. (It may also reflect something of the familiarity that children have with restaurants, menus and how they operate, although they are not usually asked to present their orders in writing.) The ability of this age-group to use classificatory systems is demonstrated again in the final menu-related question, in which children are asked to allocate 'new' items of food to the appropriate sections of the menu. Although this was not answered with quite the same level of success as the above, over 70 per cent of the sample were able to classify four of the five items appropriately, indicating that many poorer readers were amongst those who could manipulate the information in this way.

### ***Narrative***

A similar proportion of pupils also demonstrated some success in handling a narrative text. The story, being of a much greater length than the expository texts, may appear rather daunting for the unconfident reader. It is surprising to note, therefore, that many less able readers produced acceptable answers to three questions. One of these, moreover, although requiring straightforward retrieval of detail, necessitated a very close reading of the text. This question, *What is the name of the girl in the story?*, was not as straightforward as it may seem, as the story is told as a first-person narrative and the name of the narrator is revealed indirectly half-way through the plot. Nonetheless, almost 80 per cent of the sample read the text with sufficient attention to locate the name of the heroine.

Two other questions were well answered by less able readers – both asking for essential elements in the plot (where Joanne was that day, and why she ran downstairs without bringing the tablets). Their performance on these three items indicates that even less able 8-year-olds were able to interpret some aspects of this extended piece of text, although they were not able to read it with complete appreciation of the plot, characters and language use.

### **Middle Band (Able Readers)**

#### ***Lost Kittens***

Although the Lost Kittens exercise posed the types of problems described above for the least able readers, the majority of the sample, in fact, handled the exercise with apparent ease. There was one question, however, which is worthy of note as it caused more widespread difficulty. This asked for two ways in

which the owner of the kittens could be contacted. With the name, address and telephone number of the owner provided, the expected answers were that one could *telephone* or *write* or *call in person*. While many poorer readers simply copied the address and telephone number without stating how they would make use of this information, 62 per cent of the sample deduced one sensible suggestion, and 52 per cent deduced two. These percentages would indicate that children of this age are just starting to make inferences and that it is a skill within the capability of this middle band of readers and above.

### **Menu**

Like poorer readers, children in this middle band completed their order forms successfully and allocated new items to the different sections of the menu appropriately, thus showing that they could use a menu for its intended purpose and more. This band of pupils outperformed the lower band largely on one question: they were able to explain why their parents could not use the same menu to place an order – through a simple deduction from the fact that the text is entitled ‘Children’s Menu’. Many of them were also able to state how much their meal would cost them, by directly lifting the price of £4.00 from the menu. Yet others were able to surmise, through much more complex inferencing, what a ‘Wonderland Surprise’ might consist of. It was rare, however, to find individual pupils in this band who could answer all three of these questions appropriately. This would indicate that, although they were able to use this genre of text for its authentic purpose, it was somewhat more challenging for them to adapt the information in ways that are not normally required of them in real-life situations.

### **Narrative**

The performance of this middle band of pupils represented an improvement over the poorer readers in that they were, by and large, able to follow the main events of the plot, as measured by the first four questions on the story, and they were usually able to use simple inferential skills to respond correctly to one or two other questions about the characters or language use. About half the sample, for instance, deduced Aunt Roberta’s scorn for old wives’ tales, or inferred the reasons for Granny’s displeasure, or located the word used to convey worry and alarm in the text. The performance of this group of children declined when their interpretation of the events came into conflict with life experience or extrinsic knowledge. In cases where they found the text was at odds with their experience of the real world, many were unable to provide an appropriate response, either leaving a blank or offering a response that adhered to their own understanding of the world.

## **Top Band (Very Able Readers)**

### ***Lost Kittens***

This being a relatively simple exercise, it was only the bottom band of readers who revealed any difficulties in handling the notice. The patterns of performance of children in the top band were indistinguishable from those in the middle band.

### ***Menu***

The children in the top band experienced no problems in answering the questions on the menu, retrieving all the explicitly stated information as required, using the classifications competently and making all the necessary deductions. Not only did they tend to answer all the questions appropriately, they often exceeded the call of duty. This was noted in responses to the question which asked about the possible ingredients of the 'Wonderland Surprise'. Many adequate responses consisted of one or two ingredients which served to indicate that it was a dessert and that it was different from the others on the menu, e.g.:

*Pancake and cherries;*

*A surprise toy.*

The most able readers, however, frequently gave long, detailed answers, painstakingly listing the possible constituents of this fictitious dessert, e.g.:

*Sweets, sponge cake, ice-cream, chocolate and lots of lovely things. I think they have probably put a little toy hidden in it for people to find;*

*Ice-cream (vanilla), covered in toffee sauce and hundreds and thousands with a wee umbrella in it.*

The tendency of the ablest readers to answer questions as fully as possible was also seen in relation to other questions across the whole answer booklet, but it was the one about the 'Wonderland Surprise' which inspired the most elaborate responses.

### ***Narrative***

The top band of readers handled the questions on the story with confidence and accuracy. Their answers were often expressed in full sentences and written in such a way that there could be no possibility of misunderstanding, e.g.:

*She came down without the tablets because she was silly enough to put a big black bead up her nose. (Why did she run downstairs without bringing the tablets?)*

The use of the word *silly* passes an unsolicited comment on the events, thus revealing the reader's certitude in his or her interpretation of the narrative. This confidence was also revealed in responses to the most challenging questions in the booklet. Discussion will focus primarily on one question:

*How can you tell that her parents were **not** worried when they heard what had happened?*

The motivation behind this question was to refer pupils back to the text in search of textual evidence. The patterns of response revealed that all but the most able pupils lacked the ability to locate textual evidence and either to quote or paraphrase it. For the most part, pupils provided explanations rather than textual evidence, for example:

*because they could see that the bead was out.*

This question was one of those which brought pupils' understanding of the text into conflict with their extrinsic knowledge. Many children in the lower performing bands answered it as if they refused to believe that parents could be anything but worried and explained the absence of panic, hence the occurrence of such answers as the following:

*Because Gran did not tell them.*

It was only in this top band that pupils consistently revealed an ability to refer to the text to extract evidence and offered such answers as:

*Because her mother teased her and her dad laughed.*

Two other questions which served to distinguish the most able readers from the rest of the sample required complex inferencing and personal response in speculation beyond the text (why Granny wanted to use pepper, and why the reader thinks adults never say 'Don't put anything up your nose.'). These pupils revealed not only that they had the technical reading ability to answer all or almost all questions appropriately, but the fullness of their responses indicated that they had enjoyed the story and willingly engaged in the exercise.

## **5.2 APU test 6: *Dietary Details***

*by Tom Gorman*

This test was used at age 14. It was devised by Fiona English in 1987, and was first used in the APU age 15/16 survey of 1988. For the Northern Ireland survey of 1993 some details (for example the average cost of school meals) were updated, the text of one pamphlet was shortened, and the vocabulary of both pamphlets was simplified slightly. Six items were omitted which were based on text that had been dropped, and which had proved somewhat unreliable statistically in the APU survey. The 1993 version was used again unaltered in 1996. Administration time was 60 minutes, and there were 50 assessable items.

### **The form and structure of the test**

*Dietary Details* was a complex test, consisting of a Work Book and two pamphlets. The expository material to be read comprised three reports in summary form. The first ('Dietary Details') was based on a report by a Committee on Medical Aspects of Food Policy – the Coma Report. This report made a number of dietary recommendations aimed at children and middle-aged adults. Those relating to the fat, fibre, salt and sugar content of a typical diet were given in the report, together with associated bar and pie charts in a text of approximately 1200 words.

The second summary report was on school dinners. It was modelled on a report in *Which?* magazine. It contained approximately 1900 words, with illustrative menus. The summary had relatively few headings and presented numerous statistics. The final report, of approximately 1400 words, was based on a Department of Health and Social Security report on the diet of British schoolchildren. The version of the report cited was extracted from a professional journal. It contained an account, technically presented, of a research project that purported to link pupil behaviour and test scores with aspects of their diet.

In addition to these materials, the Workbook in which pupils recorded their responses contained a further bar chart linking the incidence of heart disease with levels of blood cholesterol in men's diets in a number of countries.

## Forms of response

The range of tasks pupils were asked to do was quite wide, including completing tables, charts and a graph, note taking (via a flow chart) and explanation, as well as giving written answers. The test as a whole was designed to investigate pupils' inferencing skills, as well as their powers of selective and critical reading.

The total number of pupils who completed the test was 757, of whom 423 were boys and 334 were girls.

## SECTION 1: *The Coma Report*

The first question asked pupils to identify the groups of people that the report was aimed at. The relevant information was given explicitly in the first paragraph of the summary and it was therefore easy to locate. Seventy-nine per cent of the pupils answered correctly – nine out of ten girls and seven out of ten boys. A gender-linked pattern of response, with girls obtaining higher scores than boys, was apparent in the majority of questions in the test and the mean score of girls on the test (29.3) was significantly higher than that of boys (24.1).

Evidence from other national surveys indicates that, while girls perform significantly better than boys on tests of writing, this is not always the case with regard to reading. The difference in performance is typically less marked on reading tests requiring multiple-choice as opposed to written responses, for example, and some variation in test response can also be linked to test topic. In this case, there is a likelihood that a larger proportion of girls than boys might be interested in questions to do with diet, even though health issues are of equal relevance to both sexes.

The pupils were next asked to consider a histogram which showed a recommended maximum daily intake of fat, salt and sugar and the suggested daily intake of fibre. They were asked to insert the names of these items under the columns related to them. Again, eight out of ten pupils were able to link the text and the chart as required to insert the correct subheadings.

The next question asked pupils to extract and synthesise information from the report relating to the ways in which **salt** *operates* in the body. The text, the relevant section of which is given below, contained several examples of ways



in which salt affects bodily functions, but these were subsumed under four more general statements:

*Salt, or sodium chloride as it is chemically known, is essential to us. About 10 per cent of sodium is found in tissue cells, 40 per cent in bone cells and the remaining 50 per cent is found outside cells particularly in body fluids. It is necessary for nerve and muscle functioning (e.g. too little salt can cause muscular cramps), the control of body fluids (e.g. high intake causes thirst) and for determining blood volume and pressure (e.g. high intake can cause high blood pressure). The chlorine component of salt plays an important role in our digestive functions.*

Only the four generalisations were regarded as correct answers, and each of them was identified by about six out of ten pupils. Most of the others referred to parts of the body where salt is found or to specific examples of how salt affected bodily functions, as in the example shown in Figure 5.1.

**Figure 5.1: Example of response to question on bodily functions of salt**

In the DIETARY DETAILS pamphlet, you'll read that SALT is essential to us. It is responsible for certain functions in the body.

*List the 4 ways mentioned in which SALT operates within the body.*

1. 10% is found in tissue cells
2. 40% is found in the bone cells
3. 50% is found in the outside of cells
4. too little salt can cause cramps

Pupils were then asked to complete a table that specified, in part, the different types of **sugar** and their sources. Seven out of ten correctly inserted the name of one type of sugar referred to (**sucrose**) and 55 per cent correctly named its source (sugar cane or beet). An even larger proportion – nine out of ten – linked a second type of sugar, **fructose** and/or **glucose**, with its sources, which were given in the chart. However, only five out of ten (48 per cent) were able to link a third type of sugar – **lactose** – with its sources. This apparent fall in performance can be largely explained with reference to the grammatical form of the sentence in which lactose was defined:

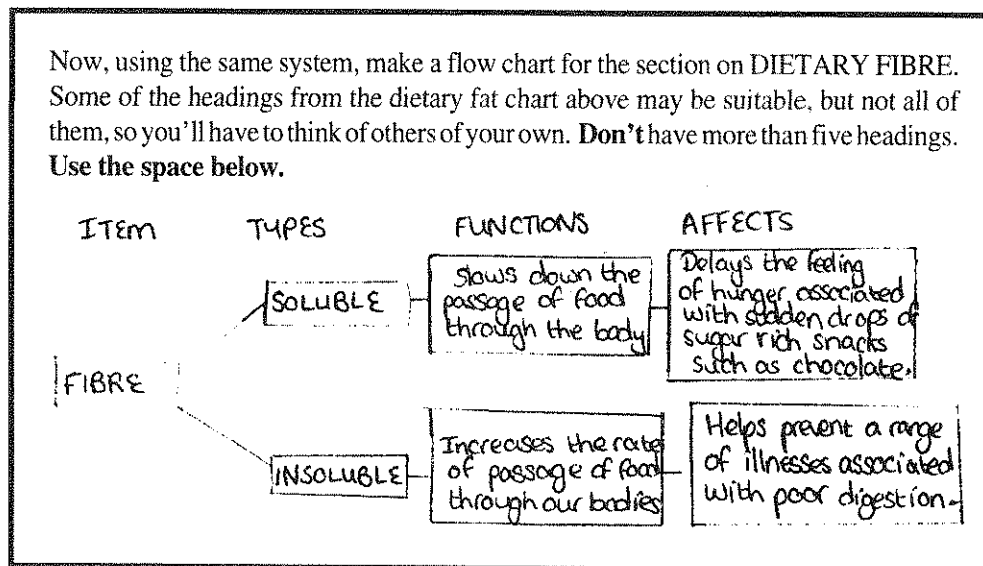
The naturally occurring milk sugar is known as *lactose* and *maltose* is the name given to those sugars found in malted cereals such as barley and sprouting grains.

A cursory reading, overlooking the first occurrence of “is”, leads to the interpretation that the source of lactose is malted cereals such as barley or sprouting grains. An error analysis of a randomly selected group of papers indicated that 60 per cent of the pupils who answered the question incorrectly had indeed given that interpretation to the sentence cited.

The next question presented pupils with a flow chart that summarised, again in part, information given in the text about **dietary fat**. Between 70 and 80 per cent of pupils correctly completed the various gaps in the flow chart, which linked the types, sources and appearance of different fats. Approximately 10 per cent of the pupils did not attempt this task.

When subsequently asked to construct a similar flow chart relating to dietary **fibre**, just over a third omitted the task. Pupils were informed that not all the headings from the dietary fat chart given in the previous question could be utilised with reference to dietary fibre. Most pupils used the same list of headings, however, and as a result fewer than 10 per cent of pupils gained all eight of the marks available for this section. However, just over half of the pupils were judged to have produced a flowchart which was satisfactory overall, in that it related together at least three categories of information (for an example see Figure 5.2).

**Figure 5.2: Example of satisfactory flowchart on dietary fibre**



Approximately five out of ten pupils correctly showed the two different types of dietary fibre (soluble and insoluble) and their sources, but only two out of ten completed the flow chart fully by linking these to their different effects on the digestive system. To do so required setting up a new category of response rather than utilising the category system given previously in relation to fats. It is therefore not surprising that relatively few pupils displayed that level of originality in analysing the content of the text.

The topic of dietary fat and its effects was also raised in the next question, in which pupils were asked to draw conclusions from a bar chart. The chart presented figures and graphic information that related the incidence of coronary heart disease to the levels of blood cholesterol among men in a number of countries. Many pupils gave answers to the question that made accurate reference to one or more aspects of the chart, but only about a third gave answers to the precise question asked, i.e. *From your reading, what might this suggest about the diet of Finland or the USA compared to that of Japan?* A correct answer was judged to be one that explicitly related what the pupils had previously learnt about the effects of saturated fats and the evident link between the consumption of these and cholesterol levels and heart disease, to information given in the chart about these factors in the three countries. The question required them not just to interpret the chart but to draw conclusions from it in the context of what they had already learnt. Responses such as *'Disgraceful'* and *'More people suffer from Coronary Heart Disease in Finland and the USA than in Japan'* did not meet these criteria.

## **SECTION 2: *The report on school dinners***

The second set of questions related to the *Whichever?* report on school dinners. Most related to specific factual or statistical details given in the summary. They were answered correctly by between 41 and 60 per cent of pupils, except for a question concerning the number of schools that responded to a questionnaire sent out by *Whichever?* magazine, which only 20 per cent answered correctly. This response can be accounted for by the location of the relevant statistic in a separate boxed paragraph at the end of the report.

In general, pupils found the task of locating answers to the questions asked about specific statements in the report increasingly difficult, as the numbers of pupils omitting questions increased to just under 40 per cent. Over a third of

the pupils also omitted to answer two subsequent questions about a healthy food policy pioneered in North Yorkshire which was referred to in the report; the two questions were answered correctly by only 13 and eight per cent of pupils respectively. In contrast, 90 per cent of pupils attempted a question in which they were asked to assign scores to two menus, *basing their scores on the method described in the report*. However, in answering the question, most pupils judged the menus either in terms of what they knew about diet generally or in terms of their own favourite foods. One pupil, for example, assigned the highest mark of 4 to Menu A *'because I like chips and baked beans and steak and kidney pudding'*.

Just under 40 per cent of the pupils analysed at least one of the menus correctly. Most gave less explicit responses such as

A: *I wouldn't eat it.*

B: *a nice mixture with everything I like.*

### **SECTION 3: Food for Thought**

The final report in the reading materials dealt with the diets of British schoolchildren. It included an account of an experiment, carried out in New York, which was designed to investigate possible links between diet and pupils' behaviour and academic attainment. The passage to be interpreted was extracted from a professional journal for education officers. It first specified changes that were made in the diets of schoolchildren in four successive years. Then it listed changes in pupils' scores.

Over 60 per cent of the pupils correctly noted what each of these changes were in the relevant boxes below a graph that was presented as needing completion. Between 40 and 50 per cent also accurately completed each of the missing parts of the graph, which involved the interpretation of a complex series of statements, as follows:

*At the end of the first year the scores rose from 39 to 47; after the second year the pupils' ranking rose to 51. It remained virtually static the following year, the control year, when no changes in diet were made. After the final year, when the preservatives were excluded, there was a further four point increase in ranking, taking New York pupils from the 39th to the 55th rank in four years.*

Over a third of the pupils did not complete the graph, and 30 per cent did not answer a subsequent question which asked them to say what these results *appeared to suggest*. Some were unwilling in the circumstances to extrapolate from what they had read or to attempt to draw more general conclusions from it. Most made a statement that described or referred to a feature of the graph, e.g. *'The results are getting better every year.'* Only 27 per cent were judged to have given correct answers involving a positive relationship between a healthy diet and academic performance.

The last two questions referred to alternative ways of timetabling the school day that were referred to in the report: the **continuous** day and the **continental** day. The pupils were asked to say which of the two the writer of the article preferred. Just under half correctly specified the continental day. A quarter omitted the question. A similar proportion (24 per cent) gave what was judged to be an appropriate answer to a related question which asked *how* the writer expressed this preference. Over a third omitted the question.

## General conclusions

*Dietary Details* was a test of more than expository reading. To interpret the evidence presented and to respond appropriately to the questions asked required the ability to interpret and to produce or complete charts and graphs – an ability sometimes referred to as *graphicacy*. The completion of the test also required reading stamina and a willingness to interrogate semi-technical prose in order to find specific facts. Some questions also required pupils to go beyond the facts given so as to draw more general conclusions both from particular passages and from evidence presented earlier.

Given the complexity of the test and of the questions asked, it is of interest that over two-thirds of the pupils taking the test took the opportunity, given them on completing it, to comment on aspects of the reports that they found interesting. Some of their comments are reproduced in Figure 5.3.

Figure 5.3: Some 14-year-old pupils' comments on the *Dietary Details* task

It was interesting and it was  
Very helpful to me.

I think the most surprising thing I have read is  
exactly how much salt is present in food, before  
we start adding more to it.

I think the most interesting information is  
How much fibre you are supposed  
for have because it is important to people

Food Standards in the USA. I found  
this surprising because I <sup>never</sup> knew that  
eating school meals could help you  
improve your grades. I don't think  
this is reliable.

That the food that you eat and  
when you eat it can have any  
effect on how you think.

## ANNEX TO CHAPTER 5:

### Item data on *Reading Ability Series level A* and *Dietary Details* (test 6)

The correct answers are shown or summarised in italics.

#### *Reading Ability Series level A*

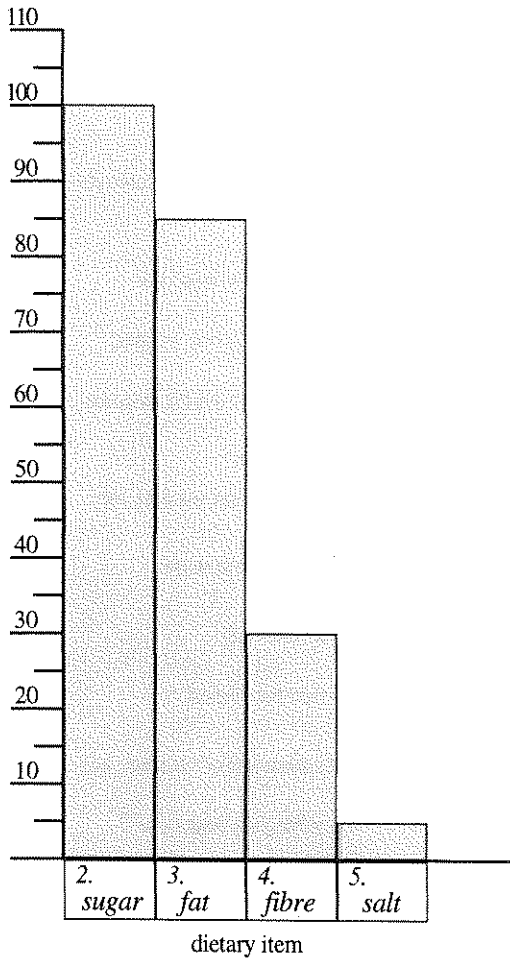
<b>Exercise 1: <i>Two Lost Kittens</i></b>		% correct	% omitted
1. How many kittens were lost?	2	98	<1
2. Who lost the kittens?	<i>(Mrs) J Blake</i>	91	3
3. What colour are they?	<i>ginger, black &amp; white</i>	78	1
4. What would you get for finding both kittens?	<i>£10 for each kitten/£20</i>	63	3
5. Suppose that you found the kittens, in what two ways could you let Mrs Blake know?			
	<i>(Accept any two of:)</i>		
	<i>write to her/telephone her/</i>	62	10
	<i>go to her house</i>	52	20
<b>Exercise 2: <i>Wonderland Cafe</i></b>			
1. Imagine that you are at the Wonderland Cafe. What would you order?			
	To start } Main Dish } Vegetables } Sweet } Drink }	<i>Accept any item from correct part of menu</i>	92 3
2. How much would your meal cost?	<i>£4.00</i>	67	4
3. Why couldn't your parents order the same meal as you?	<i>because it's only for children, etc.</i>	61	12
4. Write down what you think 'Wonderland Surprise' has in it.	<i>any sweet or pudding described except those already on menu</i>	52	15

			% correct	% omitted
5.	Suppose that the cook at the Wonderland Cafe were making some new dishes. They would have to go in the right course on the menu. <b>Egg and chips</b> would go in the <b>main dish</b> course. What course do these new dishes go into?			
	fruit salad	<i>sweet(s)</i>	47	10
	carrots	<i>vegetable(s)</i>	75	10
	tea	<i>drink(s)</i>	79	10
	sausages and potatoes	<i>main dish</i>	70	12
	chicken soup	<i>starter/to start</i>	76	11
<b>Exercise 3: A bead up my nose</b>				
1.	What is the name of the girl in the story?	<i>Joanne</i>	78	11
2.	Where was she on that day?	<i>with granny, etc.</i>	74	9
3.	How did she know where to find her Granny's tablets?	<i>her granny had told her where to look</i>	68	13
4.	Why did she run downstairs without bringing the tablets?	<i>because she had a bead up her nose, etc.</i>	73	15
5.	Granny wanted to use pepper. What was the pepper for?	<i>to make her sneeze the bead out</i>	29	17
6.	Why did Aunt Roberta want them to go the hospital instead of using pepper, as Granny had said?	<i>she thought using pepper was a silly idea, etc.</i>	52	21
7.	Why was Granny so cross with Aunt Roberta on the way home?	<i>because the pepper had worked, etc.</i>	45	22
8.	What <b>one</b> word in the story shows that Granny and Aunt Roberta were very worried when they found out what the girl had done?	<i>panic(ked)/scream(ed)</i>	47	28
9.	How can you tell that her parents were <b>not</b> worried when they heard what had happened?	<i>because they laughed about it/did not panic, etc.</i>	27	30
10.	Why do you think grown-ups never say 'Don't put anything up your nose'?	<i>because they don't think anyone would do it, etc.</i>	24	29



## Test 6: Dietary Details

N.B. The original test was printed on A4 paper, and has been considerably reduced in size for reproduction here.

		% correct	% omitted												
<p>The COMA Report of 1984 made certain basic recommendations concerning what we eat. What group of people were these recommendations particularly aimed at?</p> <p style="text-align: center;"><i>1. older children and young and middle aged adults</i></p>		79	5												
<p>Look at the histogram below. It is designed to show the <b>maximum</b> daily intake of salt, fat and sugar recommended in the Coma Report and the <b>suggested</b> daily intake of fibre.</p> <p>In each of the boxes provided at the bottom, write the name of the dietary items represented by the columns (i.e. salt, sugar, fat and fibre).</p>  <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>2.</td> <td>84</td> <td>3</td> </tr> <tr> <td>3.</td> <td>80</td> <td>3</td> </tr> <tr> <td>4.</td> <td>77</td> <td>3</td> </tr> <tr> <td>5.</td> <td>80</td> <td>3</td> </tr> </tbody> </table>		2.	84	3	3.	80	3	4.	77	3	5.	80	3		
2.	84	3													
3.	80	3													
4.	77	3													
5.	80	3													
1															

In the DIETARY DETAILS pamphlet, you'll read that SALT is essential to us. It is responsible for certain functions in the body.

List the 4 ways mentioned in which SALT operates within the body.

6. nerve and muscle functions	68	3
7. control of body fluids	55	3
8. (determines) blood volume/pressure	59	4
9. digestive functions	58	7

Look at the table below. It concerns the various types and sources of SUGAR.

Some of the information is missing so your task is to complete the table by referring to the relevant section in the pamphlet.

## SUGAR

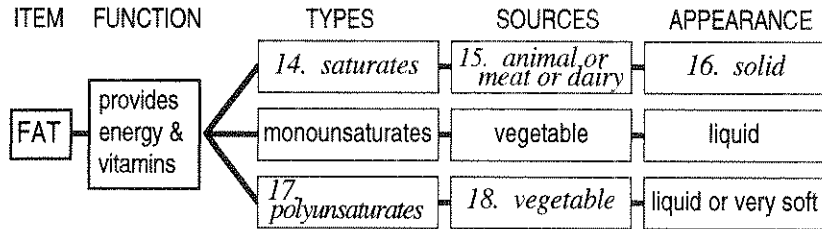
TYPE	SOURCE
10. sucrose	11. sugar cane/beet
12. fructose and/or glucose	fruit, honey
lactose	13. milk/milk sugar
maltose	malted cereals e.g. barley

10.	69	6
11.	55	6
12.	89	4
13.	48	6

Flow charts, like tables, can also be used to present information clearly, illustrating the relationships between things.

The flow chart below describes DIETARY FAT. The headings are there to help you follow the flow, which goes from left to right.

Fill in the blank boxes with the missing information:



	% correct	% omitted
14.	81	9
15.	75	12
16.	69	12
17.	81	10
18.	75	12

What further aspects of DIETARY FAT would someone concerned with health be interested to know?

19. High fat diets are related to heart disease or some cancers or overweight

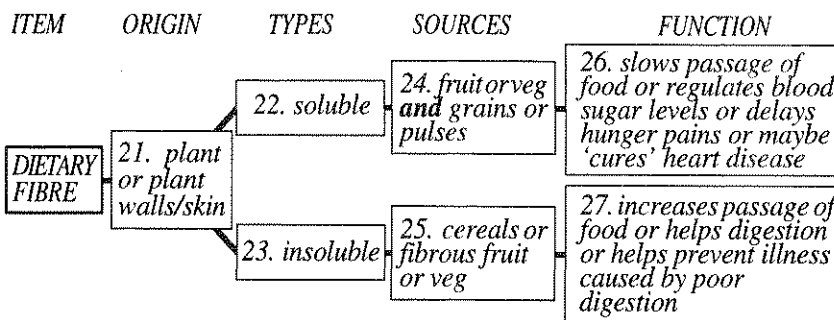
47	20
----	----

Now, using the same system, make a flow chart for the section on DIETARY FIBRE. Some of the headings from the dietary fat chart above may be suitable, but not all of them, so you'll have to think of others of your own. Don't have more than 5 headings. Use the space below.

The following is an example of a fully successful flowchart which would have gained all eight of the available marks.

20. Overall satisfactory flowchart

52	34
----	----



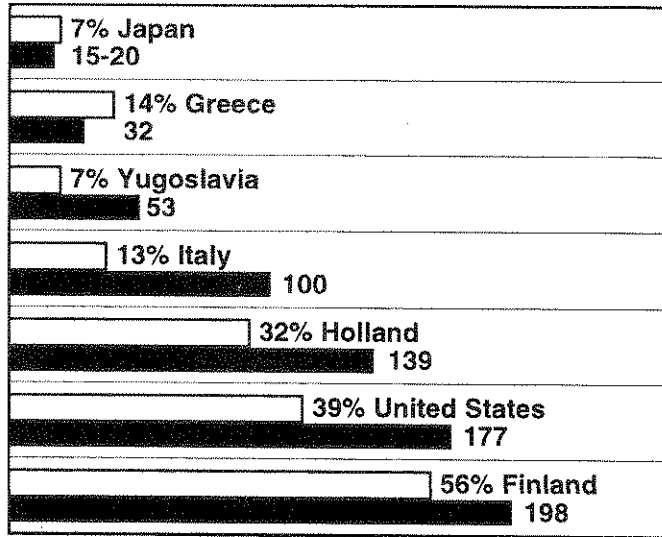
21.	12	51
22.	54	38
23.	54	38
24.	39	40
25.	47	41
26.	19	53
27.	19	56

Below, you will see a chart concerning heart disease related to blood cholesterol levels in different countries.

% %  
correct omitted

### Blood cholesterol and coronary heart disease

Source: Coronary Heart Disease in seven countries  
Circulation, 1970 (study of men aged 40-59)



Percentage of men with blood cholesterol above 250mg/100ml  
Average number of men per 10,000 in study who developed CHD during each year of trial.

From your reading, what might this suggest about the diet of Finland or the USA compared to that of Japan?

28. *USA and/or Finland have diets high in saturated fats or animal fats/dairy produce*

35 9

### CHECKLIST ON *WHICHEVER?* REPORT

Skim through the *Whichever?* Report on School Dinners and find the information to put in the boxes. The first one is done for you.

% %  
correct omitted

MONTH AND YEAR OF SURVEY	March 92		
NUMBER OF STATE SCHOOLS RESPONDING	29. 300 or 63%	20	17
PERCENT OF SECONDARY SCHOOLS WITH CAFETERIAS	30. 88%	60	19
PERCENT OF SCHOOLS WITH HEALTHY EATING POLICY	31. 68%	47	20
PERCENT OF SCHOOLS WHERE A HEALTHY EATING POLICY HAS LED TO AN INCREASE IN PUPILS EATING SCHOOL DINNERS	32. 70%	46	25
MOST COMMON PRICE OF A SCHOOL DINNER	33. £1.30 - £1.50	56	15
PERCENT OF MENUS APPROVED BY 'WHICH' MAGAZINE	34. 75%	45	39
APPROXIMATE NUMBER OF CHILDREN IN THE SURVEY BEING OFFERED UNHEALTHY SCHOOL MEALS	35. 105,000 or 8%	41	37

The North Yorkshire healthy food policy described in the *Whichever* report appears to be very successful. The most important result of their policy is that pupils are being offered a healthier choice of food.

Write down **TWO** further benefits mentioned.

36-37. Accept any two of: prices not increased / more pupils eating school meals / ethnic or variety of vegetarian food available / more relaxing (with pop music) / more jobs created

36.	13	33
37.	8	36

%	%
correct	omitted

*Whichever?* magazine studied menus sent in by the schools in their survey. Scores were given to the menus based on FOUR 'healthy choice' factors.

Basing your scores on the method described in the *Whichever? Report* judge each of the menus below and put the score out of 4 in the box provided.

**A**

<p>MENU</p> <p><i>steak &amp; kidney pie</i> <i>fishcakes in bread crumbs</i></p> <p><i>chips</i> <i>mashed potato</i></p> <p><i>peas</i> <i>baked beans</i></p> <p><i>sponge pudding &amp; jam sauce</i> <i>fruit salad in syrup</i></p>
---

SCORE

**B**

<p>MENU</p> <p><i>cod in batter</i> <i>wholemeal pizza</i></p> <p><i>chips</i> <i>baked potato</i></p> <p><i>cabbage</i> <i>fresh salad</i></p> <p><i>apple pie &amp; custard</i> <i>fresh fruit</i></p>
--

SCORE

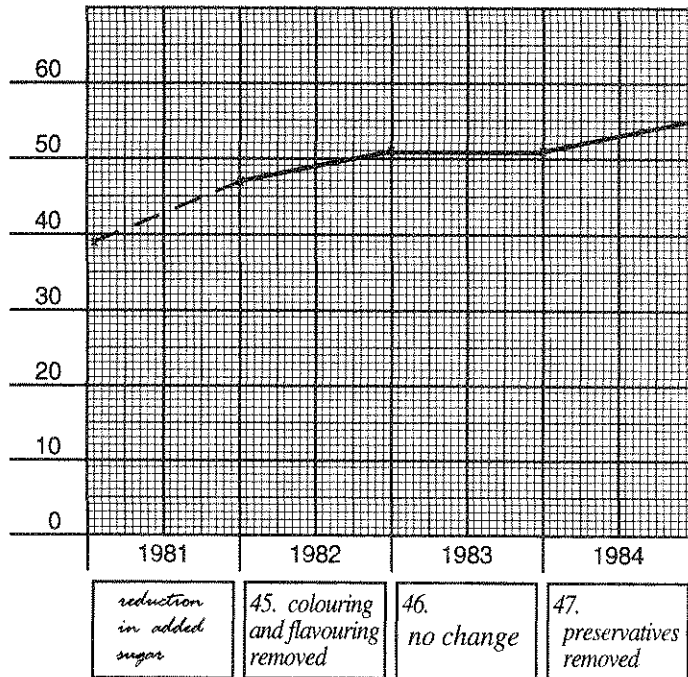
Explain **briefly** why you gave each of the Menus that score:

40. <i>no or only one healthy alternative offered</i>	12	10
41. <i>full choice of healthy alternatives</i>	20	11

In *NASMO News* you'll read about an experiment carried out in the USA. It was devised to find out if what pupils ate had any effect on how well they did in yearly school tests. The results of the experiment are described in the article.

Your task is to fit the results to the graph below.

*N.B. In the original, the 1981 part of the graph (the rise from 39 to 47) and the answer below it ('reduction in added sugar') had been done for the pupils.*



- 42. During 1982, graph rises to 51
- 43. During 1983 it remains level
- 44. During 1984, it rises to 55.

49	34
43	36
44	37
45.	65 25
46.	61 29
47.	64 28

What do these results appear to suggest?

- 48. that there is a positive relationship between healthy/non-synthetic diet and academic performance

27	30
----	----

	%	%
	correct	omitted
<p>The school day in this country is normally split in two, with about an hour's dinner break in the middle.</p> <p><i>NASMO News</i> discusses TWO alternative ways of arranging the school day: The Continuous day and the Continental day.</p> <p>Which of the two do you think the writer of the article prefers?</p>		
49. <i>Continental day</i>	48	24
<p>How does the writer express this preference?</p>		
50. <i>highlights good points</i>	24	37
8		



CHAPTER 6  
**THE ATTITUDES TO READING OF  
PUPILS AGED 14**

*by Vivienne Cato and Greg Brooks*

### **6.1 The questionnaire**

In all the APU surveys between 1979 and 1988 (which covered England and Wales as well as Northern Ireland), the attitudes to reading of pupils aged 11 and 15/16 were investigated. However, in the 1993 Northern Ireland survey, which was more of a feasibility study, attitudes were not investigated. Since the 1996 exercise was intended to be a full monitoring survey, it was decided to include an attitude instrument for pupils aged 14, as a trial.

Pupils aged 14 therefore completed a six-page questionnaire (reproduced in Appendix C) on their reading attitudes and habits. In all, 774 pupils aged 14 completed the questionnaire. This contained 55 items, and was largely based on that used in the evaluation of phase 1 of the Knowsley Reading Project (Cato *et al.*, 1994), which was in turn derived from that used in the APU age 11 survey of 1988 (Gorman *et al.*, 1991, pp.54–8). Of the 55 items, six sought background information (results against these are reported in chapter 4), 37 were attitude statements to which pupils responded by circling one of YES, Not sure, and NO, and the remaining 12 addressed pupils' reading interests. In terms of topics, the questionnaire elicited information concerning pupils'

- enjoyment of reading
- ease or difficulty with reading
- independence in reading
- reading preferences
- favourite books and authors
- reading habits.

These topics are dealt with in turn in the next six sections of this chapter.

Once the responses to the separate items in the questionnaire had been analysed, a factor analysis was carried out on the responses to the 37 attitude statements;

the factors which emerged were then related to the test scores. The results of this exercise are reported in section 6.8.

## 6.2 Enjoyment of reading

### Overall pleasure in reading

Two-thirds of the pupils responding claimed to enjoy reading. About a quarter said they were unable to find books they wanted to read, and about a fifth described themselves as not interested in books. Only a seventh of the sample claimed they could not recall reading anything enjoyable.

A marked gender difference was apparent in enjoyment of reading, with 56 per cent of boys but 76 per cent of girls responding positively on this statement.

### Voluntary reading

Positive attitudes to reading correlate closely with the degree to which children choose to read when such activities are not imposed on them by the school.

Just under a quarter of the sample said that they read only what they had to, and 29 per cent read just in order to find out something. For 15 per cent, the only books read were those provided by the teacher.

Enjoyment in reading at home can be taken as a meaningful indicator of reading undertaken willingly. Nearly two-thirds agreed that they liked to do so, though only three out of ten said that they liked reading by themselves for hours (see Table 6.1).

**Table 6.1: Enjoyment of private reading**

	Boys			Girls		
	Yes	No	Not Sure	Yes	No	Not Sure
	%	%	%	%	%	%
I like reading at home	55	30	15	75	15	10
I like reading to myself for hours	16	67	16	46	37	18

Whilst 51 per cent preferred playing out to reading books, a similar figure disagreed with the suggestion that their life outside school was too full for

reading, and only 36 per cent agreed that they were too busy doing other things to read at home.

There appeared to be a marked difference in the voluntary reading habits of boys and girls. Whilst 55 per cent of boys liked reading at home, the corresponding figure for girls was 75 per cent. The proportion of boys saying they liked reading by themselves for hours was especially low. Given the choice of reading by themselves or playing out, 58 per cent of boys, but only 41 per cent of girls, chose the former. Boys' attitudes to reading were more functional than girls'.

Within the overall 49 per cent who liked to read to help them understand their own and other people's problems, there was again a statistically significant sex bias (61 per cent of girls; 39 per cent of boys).

### **Talking about books**

Rather fewer than half of pupils (38 per cent) said they liked talking about books they had read, and 42 per cent actively did not. Of those who enjoyed this activity, a greater proportion were girls (44 per cent, as opposed to 33 per cent for boys).

Reading aloud with expression appeared to be an unpopular practice. Those who actively disliked doing so greatly outnumbered those who enjoyed it (62 to 22 per cent).

## **6.3 Ease or difficulty of reading**

Whilst 43 per cent of pupils said that it took them a long time to read most books, only nine per cent claimed to find reading difficult. Just over 40 per cent were confident enough in their reading ability to find some books in the class library too easy for them (leaving a quarter at instructional level or worse with all library books). Confidence increased, however, when applied to books used in class. Only a sixth found some of these too difficult, and 62 per cent asserted they had no problem with them.

Once again, boys displayed a greater aversion to print than girls. Thirty-three per cent of boys, contrasted with 22 per cent of girls, wished that books had more pictures and less writing, and similar numbers (38 and 22 per cent) felt they did better in subjects where a lot of reading was not required.

## 6.4 Independence in reading

Independence in reading is a chief aim of literacy teaching. An overwhelming majority of pupils (96 per cent) agreed that they liked to choose their own books; 50 per cent also felt confident in the use of a library to find things out, although the mean rate of affirming this masked a significant gender difference of 55 per cent for girls and 45 per cent for boys. An even larger difference obtained on the question of whether pupils like to go off to read by themselves (see Table 6.2).

**Table 6.2: Independence in reading**

	Boys			Girls		
	Yes	No	Not Sure	Yes	No	Not Sure
	%	%	%	%	%	%
I like going off and reading silently to myself	43	40	17	66	22	12
I enjoy using a library to find things out	45	38	17	55	25	20

Active engagement with the text is indicated by pupils who like asking a lot of questions about the books they have read. Although 24 per cent enjoyed doing so, 57 per cent chose the 'No' option for this statement rather than the more diffident 'Not sure'. However, a higher degree of independence was reflected in responses to the statement, 'I prefer listening to a story being read out to reading it by myself'. Here, nearly half the sample (46 per cent) preferred independent reading to 'storytime'.

## 6.5 Reading preferences

### Reading and television

Many more pupils overall preferred watching television (two-thirds of the sample) to reading (just 11 per cent). The preference for television was more marked amongst boys (75 per cent chose it, compared with 54 per cent of girls).

### Reading and computers

This area was addressed by three questions. The responses to these items are summarised in Table 6.3.

**Table 6.3: Pupils' attitudes to reading and computers**

	Boys			Girls		
	Yes	No	Not Sure	Yes	No	Not Sure
	%	%	%	%	%	%
I find reading from books easier than reading from computer screens	41	36	24	52	26	22
I only use computers for playing games	44	48	8	34	59	7
The information I get from computers is more interesting than the information in books	44	25	31	24	33	43

Though both boys and girls were more likely to say they found reading from books easier than reading from computer screens, and that they did not use computers only for playing games, both these opinions were stronger among girls. On whether the information in books or in computers was more interesting the gender preferences were opposite, with boys finding the information they got from computers more interesting, and girls the reverse – but in both cases the preference was muted by the high proportion of those choosing ‘Not sure’; this may be a more sophisticated answer, implying that both are interesting, perhaps for different purposes or reasons.

### Reading materials

The types of reading material pupils encounter will necessarily influence their future choices and tastes. Section A of the pupils' reading questionnaire included several statements probing preferences for a few genres of text: stories, non-fiction, comics and poems.

- A great majority of pupils (70 per cent) liked reading **stories**, although fewer, 59 per cent, preferred them to information books. A further quarter of the sample claimed the reverse, a positive preference for information books over stories. Preference for stories over informational texts was expressed by a greater percentage of girls than boys (73 to 48 per cent), a bias that was only slightly less marked in relation to the simple, non-comparative statement, ‘I like reading stories’. Here, 82 per cent of girls agreed, as against 60 per cent of boys.

In the sample as a whole, a preference for stories similarly won out over reading about one's hobbies, although the demarcation was less emphatic

than when stories were compared with informational texts. Forty-three per cent preferred stories to hobby reading, and 38 per cent the reverse. Once again, girls showed a partiality for stories above all: only 20 per cent (53 per cent for boys) preferred hobby reading to fiction.

- In response to the simple statement, 'I like reading **non-fiction**', nearly a half (45 per cent) of all pupils agreed and a quarter (24 per cent) disagreed. In this non-comparative context, no significant gender differences emerged.
- Pupils' preferences for comics, magazines and annuals over other reading material were gauged through two matched, opposing but separately placed statements. The results are shown in Table 6.4.

**Table 6.4: Pupils' preferences for comics, etc.**

	Boys			Girls		
	Yes	No	Not Sure	Yes	No	Not Sure
	%	%	%	%	%	%
I prefer reading comicbooks and annuals to other sorts of books	50	30	20	29	55	16
I prefer reading books to reading comics and magazines	26	53	21	33	47	20

Girls' responses to the two questions may seem contradictory at first glance, if about half are taken to have said they prefer books on the first question but only about a third to have said this on the second (and *vice versa* for comics, etc.). But perhaps there was a deeper consistency, in the sense that about half denied a preference either way on both questions, with a third or slightly fewer expressing positive (and opposite) preferences.

Boys' preferences were less complicated: on both questions about half preferred comics to books.

- Although 44 per cent claimed not to enjoy **poetry**, nearly as many pupils (42 per cent) agreed with the statement, 'I like reading poems'. The taste was more marked amongst girls, 56 per cent of whom liked poems (contrasted with 31 per cent of boys).

Section B of the pupil questionnaire incorporated a list of 21 genres of text, from which pupils were invited to select three to represent their favourite types – see Table 6.5.

**Table 6.5: 'Top Ten' genres of reading material**

	Percentage of pupils selecting
1. Magazines	54
2. Ghost/horror/supernatural	43
3. Sport	33
4. Teenage stories	32
5. Adventure stories	26
6. Newspapers	24
7. War stories	19
8. Love stories	18
9. Comics	17
10. School stories	16

Significant differences in the preferences of boys and girls appeared within a few categories. Girls indicated stronger preferences than boys for magazines (68 to 44 per cent), teenage stories (54 to 15 per cent) and love stories (35 to five per cent). A greater proportion of boys, in turn, preferred sports books (selected by 51 per cent of boys and nine per cent of girls), adventure stories (33 to 16 per cent) and comics (28 to eight per cent). The sexes' reading preferences were already beginning to differentiate along traditional lines.

Section B also asked pupils whether they had a favourite book or author, and 59 per cent replied in the affirmative. When asked whether they had enjoyed reading any fiction or non-fiction in 1996, somewhat different responses emerged. Whilst 59 per cent of children could think of some fiction work they had recently enjoyed (once again a more common response from girls), only 44 per cent felt they had enjoyed any work of non-fiction that year. About two-fifths of those who could think of an enjoyable fiction book said they had read it as part of their school work.

## **6.6 Favourite books and authors**

Pupils were invited to supply a name for their favourite book and/or author, a work of fiction they had enjoyed within the last year, where they had obtained it, and a work of non-fiction recently enjoyed. They were also asked for their favourite magazine or comic, and invited to supply an example of a work in each of their three preferred genres.

Overall there was a huge diversity of responses. When asked to name their favourite book or author, about 40 per cent of pupils declined to name either. Among those who answered, an author's name was given much more frequently than a book title. Roald Dahl emerged very strongly as the favourite author (with several titles mentioned), although other authors mentioned several times included Judy Blume, Nigel Hinton, Stephen King, Joan Lingard, Francine Pascal and R.L. Stine.

Titles of favourite books and of fiction enjoyed recently overlapped so much that they are treated here as one category. Titles were enormously diverse, ranging from *Animal Farm*, *Treasure Island* and *Shane* to *Carrie's War*, *The Secret Seven* and *Reservoir Dogs*. The only titles quoted more than once each (in a representative sample of 100 questionnaires) were *The Babysitter Club*, *Brother in the Land*, *Buddy*, *Good Night Mr Tom*, *I am David*, *Into Exile*, *Julius Caesar* (cited once as non-fiction), *The Lion, the Witch and the Wardrobe*, *Madame Doubtfire*, *Pigman*, *Point Horror* (also cited once as non-fiction), *Sidewalk Surfer*, *The Twelfth of July*, *Under the Hawthorn Tree*, *Sweet Valley High*, *Wildflower Girl* and *The X-Files*.

So few pupils answered the question on where they had obtained the work of fiction they had recently enjoyed that the data could not be considered representative, and are not reported.

When asked to give the title of a non-fiction book they had liked, hardly any pupils provided a recognisably non-fiction title – *St Patrick*, *Michael Jackson Unauthorised* and *The Diary of Anne Frank* were among the very few.

In contrast, very few pupils had any difficulty in providing the name of a favourite magazine or comic, and these therefore seem to be the staple non-fiction reading of these pupils. Some children's comics figured, such as the *Beano* and the *Dandy*. There were a few mentions of hobby magazines such as *Net and PC Pro* and *Dirt Bike Rider*. But the clear favourites were magazines reflecting teenage interests: *Big*, *Bliss*, *Just Seventeen*, *Shoot*, *Smash Hits*, *Sugar* and various football titles.

When they had selected their three favourite text types, pupils were asked to name an example of each. Whilst overall this item revealed that pupils had a sound understanding of genre types and were able to cite appropriate examples, the examples themselves defied summary. However, among those who picked newspapers as one of their favourite genres, both national (*Daily Mirror*, *Sun*) and local (*Belfast Telegraph*, *Irish News*) titles were represented.



Test results against several of the variables reported in this section are shown in Table 6.6.

**Table 6.6: Reading preferences and test performance**

	Test:	3	6	N
		average score	average score	
Have you read any fiction this year which you have enjoyed?	YES	24.1	29.5	392
	NO	19.6	22.7	277
Did you read it as part of schoolwork?	YES	20.4	24.5	227
	NO	23.7	28.0	352
Have you read any non-fiction this year which you have enjoyed?	YES	23.1	28.9	28.9
	NO	21.9	25.2	359
Have you a favourite magazine or comic?	YES	23.1	27.5	499
	NO	21.5	25.3	119

*N = sample size (for both tests)*

These results fell into a consistent pattern. Pupils who had *not* read the work of fiction they had enjoyed as part of schoolwork, and those who gave positive answers to the other three questions, tended to have higher average scores than others.

## 6.7 Reading habits

### Time spent reading

- *Fiction* Most children who read fiction for their own pleasure did so for one, two or three hours each week (22, 18 and 11 per cent respectively). As many as 15 per cent claimed not to read any fiction, but 34 per cent read fiction for more than three hours a week.
- *Non-fiction* Fully one quarter (25 per cent) claimed to read no non-fiction at all. More children spent one or two hours a week reading this genre of text for their own pleasure than fiction (26 and 20 per cent), but fewer read non-fiction for three hours or more (29 per cent).

### **Number of books owned**

Only seven per cent of pupils owned no books whatsoever. Nearly two-fifths said they owned between one and 10 books, a quarter between 11 and 25 books, a sixth between 26 and 50 books, and a tenth between 51 and 100 books. A few claimed to own more than 100 books. Those pupils who said they owned no books had much lower average test scores than others:

- on test 3, non-book owners' average score was 14.8; averages for other groups ranged between 21.1 and 24.9;
- on test 6, non-book owners' average score was 15.3; averages for other groups ranged between 25.2 and 30.1.

### **6.8 The factor analysis**

A factor analysis was applied to the pupils' responses to the 37 items in part A of the questionnaire; to each of these pupils had to reply YES, Not sure or NO. Weak loadings (of 0.3 or less) were ignored. Four particularly strong factors then emerged. Three of the questionnaire items (nos. 2, 7 and 17) did not load very heavily on any of the factors and were dropped. The other 34 items mainly clustered under the four factors shown in Table 6.7 overleaf, where the items are listed under the factor on which they loaded most heavily, and within that in decreasing order of loading on that factor. The reliability coefficient (Cronbach's alpha) for each factor is also shown; this coefficient is a measure of the overall consistency of the individual items with the factor as a whole. There was some overlap in content between the first two factors: several items which loaded most heavily on 'enjoyment of reading' also had smaller loadings on 'reading preferences' – see especially items 5, 25, 35 and 36.

**Table 6.7: Four main factors in pupils' attitudes to reading**

	<b>Loading</b>
<b>Factor 1: Enjoyment of reading</b> Cronbach's alpha = 0.88	
1. I enjoy reading.	0.71
11. I like reading at home.	0.71
24. I like going off and reading silently by myself.	0.62
12. I only read books provided by my teacher.	-0.60
6. I only read what I have to.	-0.59
27. I am not interested in books.	-0.59
5. I like reading stories.	0.57
29. I am too busy doing other things to read at home.	-0.55
8. Outside school I only read if I want to find out something.	-0.54
31. I cannot remember reading anything I have enjoyed.	-0.53
25. I would rather read stories than information books.	0.48
35. I find reading from books easier than reading from computer screens.	0.43
21. My life outside school is too full for reading.	-0.42
3. I like to choose my own books.	0.39
36. The information I get from computers is more interesting than the information in books.	-0.37
<b>Factor 2: Reading preferences</b> Cronbach's alpha = 0.79	
13. I prefer watching television to reading books.	-0.70
22. I prefer reading comic books and annuals to other sorts of books.	-0.68
30. I prefer reading books to reading comics and magazines.	0.60
9. I like reading by myself for hours.	0.55
19. I prefer playing out to reading books.	-0.55
34. I prefer reading about my hobbies to reading stories.	-0.54
16. I prefer listening to a story being read out to reading it by myself.	-0.44
15. I wish that books had less writing and more pictures.	-0.43
<b>Factor 3: Willingness to read</b> Cronbach's alpha = 0.66	
28. I like reading poems.	0.62
20. I like to read to help me to understand my own and other people's personal problems.	0.60
18. I like to read aloud with expression.	0.59
14. I enjoy using a library to find things out.	0.56
32. I like to ask a lot of questions about the books I've read.	0.54
23. I like talking about books I've read.	0.52

<b>Factor 4: Difficulty with reading</b>		Cronbach's alpha = 0.57
4. I find reading difficult.		-0.67
26. Some of the books we use in class are too difficult for me.		-0.57
10. It takes me a long time to read most books.		-0.56
33. I do better in subjects where I don't have to read a lot.		-0.42
37. I only use computers for playing games.		-0.40

The four strongest tendencies in these pupils' attitudes therefore were

- whether or not they enjoyed reading
- whether or not they preferred reading (especially of books and stories) to other activities
- whether or not they willingly read across genres and for diverse purposes
- whether or not they found reading difficult.

The final investigation carried out on the attitude data was into whether these four main factors correlated with performance on the two tests these 14-year-old pupils had taken. The results are given in Table 6.8.

**Table 6.8: Correlations between four main attitude factors and test performance**

Test	3	6
<b>Factor</b>		
1 – enjoyment of reading	0.31	0.36
2 – reading preferences	0.27	0.30
3 – willingness to read	0.08	0.01
4 – difficulty with reading	-0.38	-0.40

The correlations between factor 3 and test performance were negligible. In contrast, the correlations between factors 1, 2 and 4 and test performance were strong, and statistically highly significant.

That enjoyment of reading and reading preferences should correlate positively with test scores, and difficulty with reading negatively, was unsurprising. The low correlation between test scores and the other factor was more surprising, but might be taken to mean that pupils' willingness to read *outside the test situation* had little to do with their ability to carry out the forms of comprehension demanded by these particular tests.

## CHAPTER 7

# CONCLUSIONS AND RECOMMENDATIONS

### 7.1 Conclusions on procedures

This project demonstrated that reading standards in Northern Ireland can be monitored by this kind of survey. Moreover, it showed that the larger samples of schools and pupils needed for a full monitoring survey (as opposed to the smaller numbers needed for the 1993 feasibility study) can be recruited.

The decision not to survey pupils aged 15/16 (which would have required, as in 1993, a second round of work in September) allowed the project to be completed and reported much more quickly.

The decision to use fewer tests was also justified: estimates of standards in 1996 proved possible with the smaller number of tests, and the burden on individual pupils was reduced.

Though school response rates were modest, the pupil samples were large enough to permit reliable statistical calculations.

From the comments provided by the schools, and despite the contrary opinions of the markers, the change in the time of year chosen to May appeared to be satisfactory, and the amount of testing per pupil appeared to be manageable.

The fact that the gap between this and the previous survey (three years) was equal to the gaps between the three ages of pupils tested meant that the middle and oldest samples on this occasion were drawn from the same cohorts as the two youngest samples of 1993. This feature of the design, and the fact that one of the tests which the 14-year-olds of 1996 took had also been taken by pupils sampled from the same cohort at age 11 in 1993, were both intended to allow stronger conclusions to be drawn about progress made in the interim. A conclusion was drawn about the progress made by 11-year-olds; but inferences about the progress of 14-year-olds would have had to be based on possibly unreliable data from 1993 based on small (in some cases, very small) pupil samples – therefore no conclusion was drawn about the progress made by 14-year-olds.

Most of the other innovations in 1996 were successful: the extension of sampling to small schools, the attitudes questionnaire for 14-year-olds, the factor analysis based on it, the use of questionnaires with pupils of all three ages

to gather some background information, the *gathering* of new background information variables (for the results arising from them, see below), and the use as stratifying variables of proportion of pupils receiving free meals and (at age 14) GCSE attainment. The only innovation that was unsuccessful was the gathering of primary school policies on reading.

Of the new background variables, several provided interpretable and useful results (amount of television viewing, preschool education, home literacy activities, mixed-age classes, GCSE attainment). Access to computers provided results, but these were rather uninteresting. Whether pupils had been tested on entry to school produced a non-significant result at age 8, and no result at all at age 11 because hardly any of these 11-year-olds had been tested. However, this variable would be worth retaining because its viability will increase. In contrast, one existing variable, school location, yielded so little information that it could well be dropped from any future surveys.

Some doubts were expressed about the tests used. Over half of the teachers of 11-year-olds whose pupils participated thought test 3 borderline or unsuitable, and smaller numbers were critical of each of the other tests. Some of the schools and some of the markers found parts of the language of the short story in test 3 dated. Some of the markers also thought that parts of test 6 were too complex – but for some contrary views see the pupils' comments reproduced at the end of chapter 5.

The markers' comments, though largely favourable, were perhaps slightly less so on the whole than in 1993. In addition to the points just mentioned, they had particular concerns about a few of the questions and a few points in the marking schemes. Some of these concerns will be met by the agreement already reached that test 6 will not be re-used. If changes were made to the other tests in future in the light of other concerns, this might compromise the comparability of existing and future test results. The full set of concerns could only be addressed through not re-using any of the existing tests after 1999; this would in turn require the development of new tests (see section 7.3 below).

## **7.2 Main results**

Girls performed significantly better than boys in reading at all three ages tested and on all of the tests used.

Pupils receiving free school meals performed significantly worse than those not receiving free school meals at all three ages tested and on all of the tests used.

Pupils who watched five or more hours television per school day had significantly lower scores than those who watched less, but this probably meant that children who had difficulty with reading watched more TV, rather than vice versa.

Differences in performance according to pupils' access to computers at home or at school were small.

At age 8, pupils who had attended a nursery before school entry had a higher average score than those who been to playgroup, who in turn had a higher score than children who had experienced neither of these forms of preschool education. At age 11, the differences on this factor were small.

Independence in literacy, as indicated by high levels of literacy activity at home, was associated with higher scores for both 8-year-olds and 11-year-olds.

The average scores of Catholic and Protestant pupils were very similar; differences in performance were less marked than in 1993.

At age 14, pupils in schools with high GCSE results (more than 45 per cent of pupils achieving five or more passes at grade C or above) had much higher average scores than others. However, this difference corresponded almost exactly with the divide between grammar and secondary schools.

The detailed commentary on *Reading Ability Series* level A and test 6 (*Dietary Details*) revealed a pattern of performance very similar to that found in previous surveys. Pupils achieved the highest success rates on questions requiring the straightforward retrieval of factual, single-item, information; had more difficulty with questions requiring interpretation, or the integration of information from more than one place in the stimulus text; and had most difficulty with questions requiring inference or the understanding of implications or personal response.

The main findings on the attitudes to reading of pupils aged 14 were:

- ◆ most enjoyed reading, and most engaged in voluntary reading
- ◆ girls' attitudes were more positive than boys'
- ◆ only a few found reading difficult
- ◆ about half showed strong independence in reading (and 96 per cent liked to choose their own books)
- ◆ over half preferred watching television to reading

- ♦ many had strong reading preferences, with magazines topping the list of genres of material
- ♦ about one-fifth did little outside reading, and seven per cent owned no books.

The factor analysis and test results calculated against some separate items from the questionnaire both showed a strong relationship between positive attitudes and higher test performance.

The average score at age 8 was not significantly different from that found in 1993.

Average scores at age 11 were significantly higher than in 1993.

At age 14, however, no conclusion could be reached about the trend in attainment since 1993, because of the small numbers of pupils involved on that occasion.

As would be expected, 14-year-olds had higher levels of attainment than 11-year-olds, who in turn had higher levels than 8-year-olds. The progress made between age 8 and age 11, though difficult to judge because different tests were taken, appeared to be satisfactory. No judgment could be reached about the progress made between age 11 and age 14.

### **7.3 Recommendations**

In 1993, Northern Ireland became the first of the three relevant countries to re-institute a form of national educational monitoring following the abolition of the Assessment of Performance Unit in 1990. The 1996 reading survey continued the province's commitment to providing system-level information separate from national tests and examinations. The first recommendation arising from this study is that this form of monitoring should continue.

If so, then much of the 1996 system could be re-used, but the following modifications would or might be necessary.

The date that the research team would recommend for the next survey is March 1999. Holding the survey in 1999 would ensure that the system picked up again at ages 11 and 14 the cohorts sampled at ages 8 and 11 in 1996, as shown in Figure 7.1.



Figure 7.1: A pattern of 'same-cohort' surveys

YEAR	AGES TESTED			
1993	8	11	14	16
1996	8	11	14	
1999	8	11	14	
etc				

 = same cohort

The choice of March rather than May for the month of testing requires separate justification. As mentioned in section 4.16, surveys of reading attainment at age 8, also using *Reading Ability Series* level A, have occurred in England and Wales in 1987, 1991 and 1995, and (providing that funding can be secured) the next such survey would be due in 1999. Thus the Northern Ireland and the England and Wales series of surveys at age 8 are due to converge in that year. The opportunity would therefore arise, for the first time since the last APU survey in 1988, for a direct comparison of the performance of a particular age-group across the three countries. For maximum comparability, the survey should occur at the same time in all three; and all the relevant surveys in England and Wales have taken place in March. It is recognised that this choice of month would slightly reduce the comparability of the putative 1999 survey with that in Northern Ireland in 1996; but statistical measures could be taken to allow for this, and the opportunity for comparisons across countries is now rare. It is also recognised that this suggestion requires much forward planning in Britain as well as in Northern Ireland, and that it covers only one of the three ages monitored in this study.

For all three ages, the comparability of any 1999 results with those from 1996 would depend on the re-use of three of the tests (that is, all except test 6). *Reading Ability Series* level A would be used at age 8, and both of APU tests 2 and 3 at ages 11 and 14. This would lead to the pattern shown in Figure 7.2 (which is an adaptation of Figure 2.1).

**FIGURE 7.2: Possible future use of APU tests 2 and 3**

DATE OF SURVEY	PUPILS AGED	
	11	14
1988	2, 3	
1993	2, 3	2, 3
1996	2, 3	3
1999	2, 3	2, 3

 = same cohort

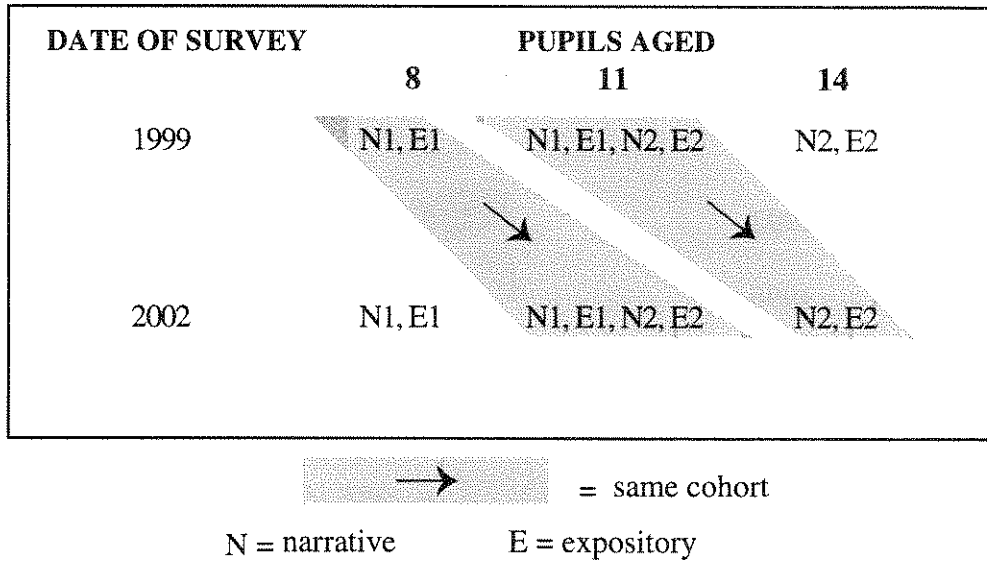
This would provide

- over-time comparisons between pupils aged 11 in 1996 and 1999
- over-time comparisons between pupils aged 14 in 1996 and 1999
- across-age comparisons between pupils aged 11 and 14 in 1999
- same-cohort comparisons between pupils aged 11 in 1996 and pupils aged 14 in 1999.

All these comparisons would be quantitative. They would be more reliable than those attempted in 1996 because of the greater size of the 1996 pupil samples. Across-age and same-cohort comparisons involving pupils aged 8 would again have to be qualitative.

But it has already been suggested that none of these three tests should be used again after 1999. In any report on a 1999 survey, tests 2 and 3 should be released and described as test 6 has been here. Continuity thereafter would be broken, unless new tests were developed. It is therefore also recommended that four new tests should be developed for first use in 1999, two (one narrative, one expository) to be used at ages 8 and 11, and two (again one narrative, one expository) to be used at ages 11 and 14. These would provide extra across-age comparisons in 1999, and the basis for over-time and same-cohort comparisons beyond that, as sketched in Figure 7.3 for possible surveys in 1999 and 2002.

**FIGURE 7.3: Possible future test pattern**



On this model, all the across-age, over-time and same-cohort comparisons would be quantitative. The model also offers the possibility, if strong pupil-tracking measures could be implemented, of instituting *longitudinal* monitoring.

It is recognised that such new tests would also be useful for monitoring purposes in England and Wales, and therefore that Northern Ireland would seek partners for this development. It should be noted that, for any such new tests to be ready in time, development work should begin no later than July 1997.

## REFERENCES

BROOKS, G., FERNANDES, C., GORMAN, T.P. and WELLS, I. (1995). *Reading Standards in Northern Ireland Revisited*. Slough: NFER for Department of Education in Northern Ireland.

BROOKS, G. and SCHAGEN, I., with LILLY, J., NASTAT, P., OTHMAN, Y. and PAPADOPOULOU, CH.-O. (1997). *Trends in Reading at Eight*. Slough: NFER.

BROOKS, G., PUGH, A.K. and SCHAGEN, I. (1996). *Reading Performance at Nine*. Slough: NFER.

CATO, V., BROOKS, G. and FERNANDES, C. (1994). *Evaluation of the Knowsley Reading Project: Interim Report*. Slough: NFER.

GORMAN, T.P. and FERNANDES, C. (1992). *Reading in Recession*. Slough: NFER.

GORMAN, T.P., WHITE, J., BROOKS, G. and ENGLISH, F. (1991). *Language for Learning: a summary report on the 1988 APU surveys of language performance*. (Assessment Matters: no. 4) London: School Examinations and Assessment Council.

GORMAN, T.P., WHITE, J., BROOKS, G., MACLURE, M. and KISPAL, A. (1988). *Language Performance in Schools: Review of APU Language Monitoring 1979-1983*. London: HMSO.

GORMAN, T.P., WHITE, J., ORCHARD, L. and TATE, A. (1981). *Language Performance in Schools: Primary Survey Report no. 1*. London: HMSO.

GORMAN, T.P., WHITE, J., ORCHARD, L. and TATE, A. (1982). *Language Performance in Schools: Secondary Survey Report no. 1*. London: HMSO.

GREAT BRITAIN. DEPARTMENT OF EDUCATION AND SCIENCE. (1978). *Primary Education in England*. (A survey by Her Majesty's Inspectors of Schools.) London: HMSO.

GREAT BRITAIN. MINISTRY OF EDUCATION. (1957). *Standards of Reading 1948-1956*. Pamphlet no.32. London: HMSO.

HORTON, T.R. (1973). *The Reading Standards of Children in Wales*. Slough: NFER.

IRELAND. DEPARTMENT OF EDUCATION CURRICULUM UNIT PRIMARY BRANCH. (1982). *English in the Primary School: Survey Report*. Dublin: Government Publications.

IRELAND. DEPARTMENT OF EDUCATION CURRICULUM UNIT (1991). *Report on the National Survey of English Reading in Irish Primary Schools, 1988*. Dublin: Department of Education.

IRELAND. DEPARTMENT OF EDUCATION CURRICULUM UNIT (in press). *Report on the National Survey of English Reading in Irish Primary Schools, 1993*. Dublin: Department of Education.

JONES, W.R. (1969). *A Survey of Educational Attainment in Wales: A Report on the 1960 National Survey*. Cowbridge, Glamorgan: D. Brown & Sons for the Welsh Joint Education Committee/Y Cyd-Bwyllgor Addysg Cymreig and NFER.

KEATING, I., ROBERTS, I., ROBERTSON, R. and SHENTON, L. (1996). 'Policy documents: on the wall or in the bin?' *Reading*, 30, 3, 37-39.

KISPAL, A., GORMAN, T.P. and WHETTON, C. (1989). *Reading Ability Series*. Windsor: NFER-Nelson.

MULROONEY, V.J. (1985). 'National surveys of reading attainment in primary schools in Ireland.' In V. Greaney (ed.) *Irish Papers Presented at the Fourth European Reading Conference and Tenth Annual Conference of the Reading Association of Ireland*. Dublin: Reading Association of Ireland.

START, K.B. and WELLS, B.K. (1972). *The Trend of Reading Standards*. Windsor: NFER.

WILSON, J.A. (1973). *Reading Standards in Northern Ireland*. Belfast: Northern Ireland Council for Educational Research.

## APPENDIX A

# Previous Reading Surveys in Northern Ireland

### A.1 The NICER survey of 1972

The first survey of reading standards in Northern Ireland took place in 1972 (Wilson, 1973). That survey was confined to Northern Ireland, and was conducted by the Northern Ireland Council for Educational Research (NICER). The test used was the National Survey test 6 (NS6), which consisted of 60 unrelated multiple-choice sentence-completion items of increasing difficulty. NS6 was developed at NFER in 1954 specifically for national monitoring purposes, and was used in this way in England and Wales on five occasions:

- 1955 (Great Britain. Ministry of Education, 1957)
- 1960 (Jones, 1969; Start and Wells, 1972)
- 1970–71 (Start and Wells, 1972; Horton, 1973)
- 1976–77 (Great Britain. Department of Education and Science, 1978)
- 1979 (Gorman *et al.*, 1981, pp.17–8 and 36–7; 1982, pp.3–4 and 23–5).

NS6 was also used for this purpose in the Republic of Ireland on four occasions:

- 1972 (Mulrooney, 1985)
- 1980 (Ireland. Department of Education Curriculum Unit, 1982; Mulrooney, 1985)
- 1988 (Ireland. Department of Education Curriculum Unit, 1991)
- 1993 (Ireland. Department of Education Curriculum Unit, in press).

The pupils tested in Northern Ireland in 1972 were aged 11 and 15/16, that is in their last year of primary school and last year of compulsory education respectively. One of the purposes of the 1972 survey was to compare the performance of Northern Ireland pupils with that of pupils in England and Wales of the same ages tested on NS6 in 1970–71; though only the difference at age 15/16 was statistically significant, at both age levels Northern Ireland pupils were found to have slightly lower average scores than their English counterparts (Wilson, 1973, p.11). This was, however, also true of Welsh pupils of both ages in 1970–71 (Start and Wells, 1972, p.19), and of 10/11-year-olds in the Republic of Ireland in 1972 (Ireland. Department of Education Curriculum Unit, 1991, p.2).

The 1972 Northern Ireland reading survey was a one-off, and did not lead immediately to the establishment of a monitoring system, that is surveys at regular intervals designed to investigate the trend of standards over time.

However, since 1972, reading standards at ages 11 and 15/16 in Northern Ireland have been surveyed on seven further occasions, annually from 1979 to 1983, and in 1988 and 1993, and this series of surveys has involved the establishment of two monitoring systems (and the abolition of the first).

## **A.2 The APU surveys of 1979–88**

The surveys of 1979–83 and 1988 (see Gorman *et al.*, 1988, 1991, and other references given there) covered not only Northern Ireland but also England and Wales, and were conducted on behalf of DENI, the Welsh Office Education Department and the (then) Department of Education and Science by the Assessment of Performance Unit (APU) Language Monitoring Project based at NFER. Within English, the surveys covered not only reading but also performance in writing, pupils' attitudes to reading, and (in 1982–88) performance in speaking and listening, and pupils' attitudes to writing. All the instruments used (except the NS6 test in 1979) were devised specifically for the APU surveys; at both ages the range of *reading* tests included both narrative and expository material. Only a few of the items were multiple-choice; the open-ended majority ranged from simple items requiring one-word answers to some requiring a few sentences to be written, and included some examples of form-filling, graph-completion, etc. Differences in performance in reading (and in other aspects of language performance) between pupils in Northern Ireland, England and Wales were slight, though occasionally statistically significant (Gorman *et al.*, 1988, p.209; 1991, pp.59–60).

Besides possible national differences, another purpose of the APU surveys was to investigate trends in performance over time. No data exist from which a trend between the 1972 NICER results and the 1979 APU results can reliably be estimated for Northern Ireland. The APU surveys did, however, allow the calculation of trends over the periods 1979–83 and 1983–88: no significant overall trend in reading performance in Northern Ireland was found at either age for either period (Gorman *et al.*, 1988, p.213, Table 12.1; 1991, pp.61–2, Tables 1 and 3 – in the last case the significant but contrary results for the two reading tests cancelled each other out).

Following the establishment of the national curriculum in England and Wales in 1989, and the decision to introduce a similar system in Northern Ireland, the

APU was abolished in 1990, and there have been no further surveys covering all three countries, or at ages 11 and 15/16 in England and Wales.

### **A.3 The NFER survey of 1993**

However, in 1993 Northern Ireland became the first of the three countries which had taken part in APU surveys to re-establish a form of national monitoring of performance. In that year DENI commissioned the NFER to carry out a survey of the reading attainment of pupils aged 8, 11, 14 and 15/16 (Northern Ireland school years 4, 7, 10 and 12). The second and fourth of these age-levels corresponded to those in all previous reading surveys in the province, but the inclusion of pupils aged 8 and 14 was an innovation - there had been no previous surveys at these ages in the province; and in England and Wales there had been no previous surveys at age 14, and just two at age 8, in 1987 (Kispal *et al.*, 1989) and 1991 (Gorman and Fernandes, 1992). Though the 1993 survey in Northern Ireland covered only one aspect of the curriculum, that aspect (reading) is so crucial for success in all subjects and in life that it was natural that it should take precedence.

The 1993 survey was designed not only to estimate the current levels of attainment of the four age-groups involved, but also, where possible, to compare those levels with each other, and with the results of previous surveys. In brief, the results (Brooks *et al.*, 1995) showed that:

- The response rate was disappointing, and some of the statistical calculations were affected. However, the 118 schools which participated returned 3978 tests on behalf of 1353 pupils, and these provided the basis for the following results;
- Girls' results were on average higher than boys';
- Pupils not receiving free school meals achieved higher mean scores than those receiving free meals;
- Pupils in inner-city schools tended to have lower mean scores than those in schools in other areas;
- The attainment of Protestant pupils was in general higher than that of Catholic pupils;
- The results showed satisfactory progress in reading between ages 8 and 11, and between ages 11 and 14. Progress between ages 14 and 16 was masked by ceiling effects on the tests, but did show up in the scores for particular questions;



- Comparisons with previous surveys suggested that attainment of Northern Irish pupils in 1993 was broadly similar to that of pupils of the same ages in England and Wales in 1991 (age 8) or in England, Wales and Northern Ireland in 1988 (ages 11 and 15/16).

The principal recommendation arising from the study was that monitoring of reading standards should be continued, in order to provide reliable and up-to-date information on the performance of the education system, and in particular on the impact of the lowering of the school entry age in Northern Ireland in 1990.

The 1996 survey reported in this volume was designed to follow on from the 1993 survey.

**APPENDIX B**  
**Primary level questionnaire**

NATIONAL FOUNDATION FOR EDUCATIONAL RESEARCH  
on behalf of the  
DEPARTMENT OF EDUCATION IN NORTHERN IRELAND  
READING SURVEYS 1996  
PRIMARY LEVEL PUPIL QUESTIONNAIRE

Please answer these questions.  
Your teacher will explain what you have to do.

1. How many hours do you usually watch TV on a school day?  
*Please circle the answer:* 0 1 2 3 4 5 6 7 hours
  
2. Do you use a computer at **school**? YES/NO
  
3. Do you use a computer at **home**? YES/NO
  
4. I learnt to read at home before I started school.  
YES Not sure NO
  
5. Grown-ups read books with me at home.  
YES Not sure NO
  
6. I write a lot at home on my own.  
YES Not sure NO

**THANK YOU FOR FILLING THIS IN**

APPENDIX C  
Attitudes to reading questionnaire  
for pupils aged 14

Department of Education for Northern Ireland - Reading Survey 1996

What do *you* think  
about reading?

© National Foundation for Educational Research 1996

This questionnaire about reading is in two parts.

In PART A you will find a series of comments which many 14-year-olds have made about reading. Some of these you will agree with, others you will disagree with.

In PART B you have space to express your own views in response to some questions about choosing books.

When you have finished Part A, please go on to Part B without waiting to be told.

There are no right or wrong 'answers' to any of these questions.

All your answers will be secret, so please take your time and decide what you honestly feel.

## PART A

This section consists of statements about attitudes to reading. Most of these thoughts have been expressed by other 14-year-olds. Some of the statements may be ones you agree with, while others may seem quite untrue to you. We would like you to tell us what your own views and feelings are by responding to these statements in a way which is true for you. There are no right or wrong answers.

Please read each of the sentences below and decide whether you agree with what it says or not. If you agree with what the sentence says, draw a circle around 'YES'. If you do NOT agree with the sentence, draw a circle around 'NO'. If you're not sure, draw a circle round 'Not sure'. Do this for each sentence.

- |  |     |          |    |
|--|-----|----------|----|
| 1. I enjoy reading.  | YES | Not sure | NO |
| 2. I cannot find any books I want to read.                     | YES | Not sure | NO |
| 3. I like to choose my own books.                              | YES | Not sure | NO |
| 4. I find reading difficult.                                   | YES | Not sure | NO |
| 5. I like reading stories.                                     | YES | Not sure | NO |
| 6. I only read what I have to.                                 | YES | Not sure | NO |
| 7. I like reading non-fiction.                                 | YES | Not sure | NO |
| 8. Outside school I only read if I want to find out something. | YES | Not sure | NO |
| 9. I like reading by myself for hours.                         | YES | Not sure | NO |
| 10. It takes me a long time to read most books.                | YES | Not sure | NO |

11. I like reading at home.	YES	Not sure	NO
12. I only read books provided by my teacher.	YES	Not sure	NO
13. I prefer watching television to reading books.	YES	Not sure	NO
14. I enjoy using a library to find things out.	YES	Not sure	NO
15. I wish that books had less writing and more pictures.	YES	Not sure	NO
16. I prefer listening to a story being read out to reading it by myself.	YES	Not sure	NO
17. Some of the books in the class library are too easy for me.	YES	Not sure	NO
18. I like to read aloud with expression.	YES	Not sure	NO
19. I prefer playing out to reading books.	YES	Not sure	NO
20. I like to read to help me to understand my own and other people's personal problems.	YES	Not sure	NO
21. My life outside school is too full for reading.	YES	Not sure	NO
22. I prefer reading comic books and annuals to other sorts of books.	YES	Not sure	NO
23. I like talking about books I've read.	YES	Not sure	NO
24. I like going off and reading silently by myself.	YES	Not sure	NO

- |   |     |          |    |
|---|-----|----------|----|
| 25. I would rather read stories than information books.                                     | YES | Not sure | NO |
| 26. Some of the books we use in class are too difficult for me.                             | YES | Not sure | NO |
| 27. I am not interested in books.   | YES | Not sure | NO |
| 28. I like reading poems.   | YES | Not sure | NO |
| 29. I am too busy doing other things to read at home.                                       | YES | Not sure | NO |
| 30. I prefer reading books to reading comics and magazines.                                 | YES | Not sure | NO |
| 31. I cannot remember reading anything I have enjoyed.                                      | YES | Not sure | NO |
| 32. I like to ask a lot of questions about the books I've read.                             | YES | Not sure | NO |
| 33. I do better in subjects where I don't have to read a lot.                               | YES | Not sure | NO |
| 34. I prefer reading about my hobbies to reading stories.                                   | YES | Not sure | NO |
| 35. I find reading from books easier than reading from computer screens.                    | YES | Not sure | NO |
| 36. The information I get from computers is more interesting than the information in books. | YES | Not sure | NO |
| 37. I only use computers for playing games.   | YES | Not sure | NO |

## PART B

These questions are about your choice of books. If a question requires the answer YES or NO, circle YES if you agree with the statement, NO if you don't.

1. Have you a favourite book or author? YES/NO
  
2. Please write the name(s) here. \_\_\_\_\_
  
3. Have you read any fiction this year (1996) which you have enjoyed? YES/NO
  - a) If so, please give the name of **one** of the books you have enjoyed. \_\_\_\_\_
  - b) What was the writer's name? \_\_\_\_\_
  - c) Where did you obtain the book, e.g. from a school library, class library, public library, shop, etc?  
\_\_\_\_\_
  - d) Did you read the book as part of your schoolwork? YES/NO
  
4. Have you read any non-fiction this year (1996) which you have enjoyed? YES/NO
  - a) If so, please give the name of **one** of the books you have enjoyed. \_\_\_\_\_
  
5. Have you a favourite magazine or comic? YES/NO
  - a) Please write its name or title here. \_\_\_\_\_



6. What kinds of books do you most like to read? Tick 3 (✓), and for each one write the name of a book that you have enjoyed

1	Fairy tales (myth and legend)	_____
2	Ghost, Horror and Supernatural	_____
3	Adventure stories	_____
4	Teenage stories	_____
5	Mystery	_____
6	Science Fiction	_____
7	School stories	_____
8	Love stories	_____
9	TV stories	_____
10	Animal stories	_____
11	War Stories	_____
12	Non-fiction	_____
13	Sport	_____
14	Nature books	_____
15	Autobiographies/biographies	_____
16	Newspaper	_____
17	Comics	_____
18	Annuals	_____
19	Joke books	_____
20	Magazine	_____
21	Books about other countries	_____

7. About how many non-school books do you personally own?  
*Please circle the answer:* a) 0    b) 1-10,    c) 11-25,    d) 26-50,    e) 51-100    f) more than 100.

8. On average, about how many hours a week do you spend on reading **fiction** for your own pleasure?  
\_\_\_\_\_ hours a week

9. On average, about how many hours a week do you spend on reading **non-fiction** for your own pleasure?  
\_\_\_\_\_ hours a week

10. How many hours do you usually watch TV on a school day?  
*Please circle the answer:*    0    1    2    3    4    5    6    7 hours

11. Do you have access to a computer at **school**?    YES/NO

12. Do you have access to a computer at **home**?    YES/NO

**THANK YOU VERY MUCH FOR FILLING IN THIS QUESTIONNAIRE**

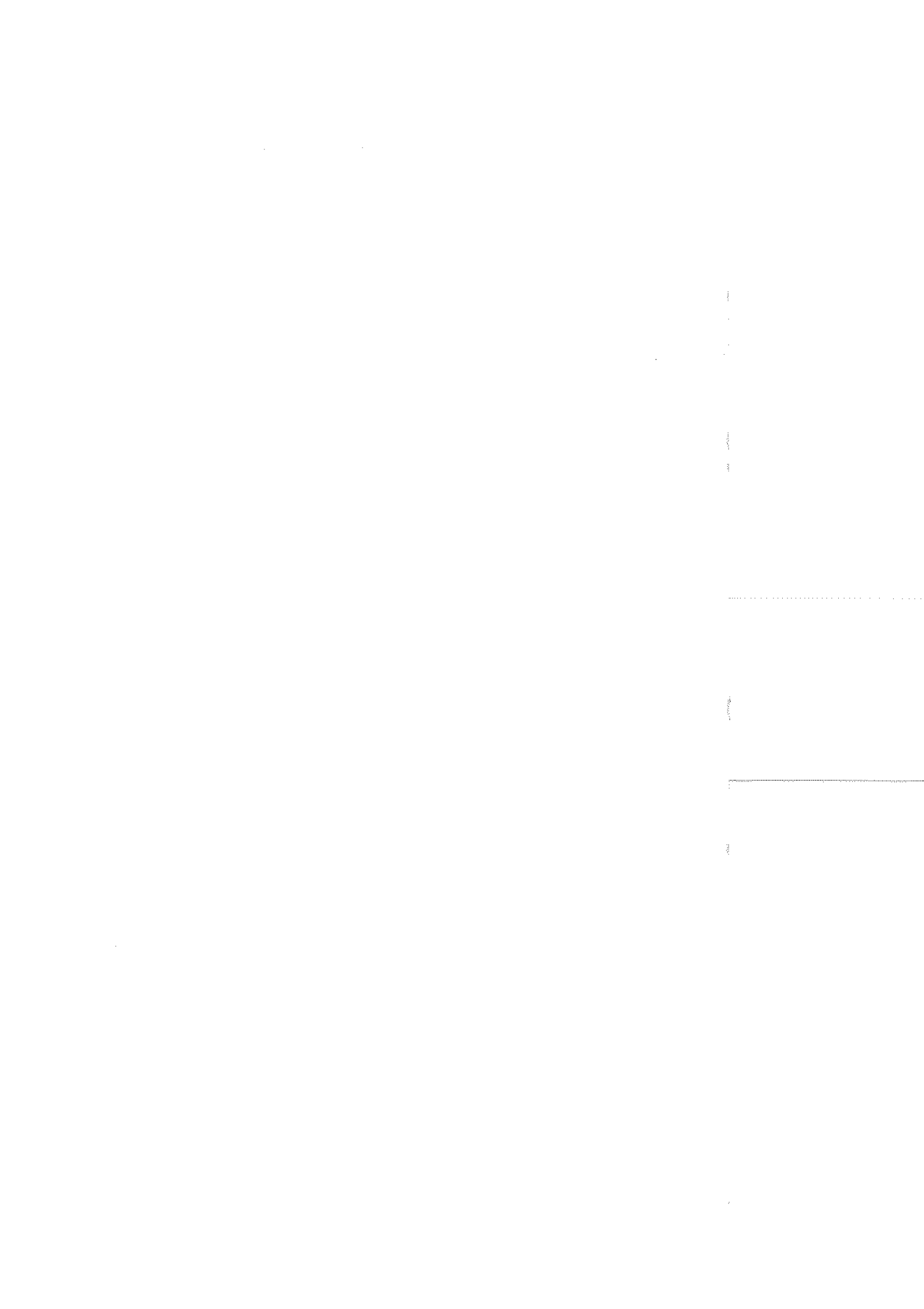
**APPENDIX D**  
**Numbers of schools drawn, participating  
and not participating**

	Age 8	Age 11	Age 14	Total
Drawn in sample and contacted	80	80	80	240
Agreed to take part but not needed	9	9	0	18
No reply	9	12	23	44
Refused	2	6	8	16
Tests sent	60	53	49	162
Tests not returned	9	4	5	18
Tests returned completed	51	49	44	144

The following table gives the reasons why schools did not wish to take part in this project.

	Age 8	Age 11	Age 14	Total
No time/pressure of work	0	1	1	2
Inspection	0	2	0	2
Staff shortage/illness /changes	0	1	1	2
Involved in another project	1	0	3	4
Other	1	2	3	6
Total	2	6	8	16









## READING STANDARDS IN NORTHERN IRELAND IN 1996

---

Surveys of the reading standards of pupils in Northern Ireland aged 8, 11 and 14 were carried out in May 1996 for the Department of Education in Northern Ireland. The aims of the study were to estimate the level of reading attainment of the three age groups studied, and to provide results which could be compared with those of previous surveys, particularly the Northern Ireland survey of 1993. For the first time, pupils aged 14 were also asked to complete a questionnaire on their attitudes to reading.

The main findings were that

- Girls' results were on average higher than boys'.
  - Pupils not receiving free school meals achieved higher mean scores than those receiving free meals.
  - Pupils who watched five or more hours television per school day had significantly lower scores than those who watched less, but this probably meant that children who had difficulty with reading watched more TV, rather than vice versa.
  - At age 8, pupils who had attended a nursery before school entry had a higher average score than those who had been to playgroup, who in turn scored higher than children who had experienced neither form of pre-school education. At age 11, the differences on this factor were small.
  - At age 14, pupils in schools with high GCSE results had much higher average scores than others. This difference corresponded almost exactly with the divide between grammar and secondary schools.
  - The attainment of Catholic and Protestant pupils was very similar; differences in performance were less marked than in 1993.
- 

ISBN 07005 1452 0  
£6.00