NZ Classroom Assessment Practices in English and Mathematics
Karyn Dunn
New Zealand Council for Educational Research

PURPOSE

This study is a two-year multi-method study of current classroom assessment practices in New Zealand schools. The first phase has documented assessment practices at Years 5, 7, and 9 in the key areas of English and mathematics. The second phase will expand on this information through case-studies that document "good assessment practice".

Given the current educational environment and recent NZ government initiatives, it seemed timely to collect base-line data which could be used to track changes in classroom assessment. These initiatives include changes made to the National Administration Guidelines (NAGs), the new literacy and numeracy initiative, Assessment Tools for Teaching and Learning (asTTle), the introduction of the National Certificate of Educational Achievement (NCEA) in secondary schools, and the Education Standards Act (2001).

OBJECTIVES OF THE QUESTIONNAIRE

Following are the research questions for the first phase of the study:

1) What assessments are being used in the areas of English and mathematics at Years 5, 7, and 9? The research will look to comment on questions such as:
   ➢ what assessments are actually being used in classrooms,
   ➢ how frequently are they being used,
   ➢ how much assessment is externally developed vs. teacher or school developed, and
   ➢ what information is recorded.

2) Why are the assessments undertaken? Here the research will be looking at:
   ➢ the purpose for which each assessment is used,
   ➢ whether any feedback is received about the assessment results, and
   ➢ if there are any assessments that are required to be done by the teacher but wouldn't be if given the choice.

3) Which assessments are the most useful? The research will also investigate:
   ➢ how useful each assessment is seen to be for a variety of purposes, and
   ➢ where the perceived gaps in assessment are.

QUESTIONNAIRE DESIGN

There were two questionnaires; one for English and one for mathematics. Both questionnaires were identical except for the list of externally developed tools teachers were given to respond to (i.e., English tools were listed in the English questionnaire and

mathematics tools were listed in the mathematics questionnaire). The same questionnaire was used by teachers at all three year levels and where necessary, appropriate instructions were given for the questions that were not applicable to all year levels.

PROCEDURE

Table 1 shows the total number of schools sampled and questionnaires sent by each year level.

Table 1

Schools sampled and questionnaires sent by year level

	Year 5	Year 7	Year 9	Total
Number of schools	181	179	112	472
Number of questionnaires	400	400	400	1200

In total, 472 schools were sent a letter outlining the project and inviting a random selection of their Year 5, 7, or 9 teachers to participate in the study. To enable a representation of national proportions, small schools were sent one questionnaire, medium schools were sent two questionnaires, and large schools were sent four questionnaires. Also included were instructions on how to randomly select the teachers who were to complete a questionnaire.

Response Rates

A total of 676 questionnaires from 311 schools were received. Table 2 shows the response rates of the schools sampled by year and questionnaire type.

Table 2

Response rate of the schools sampled

Year 5		Year 7		Year 9	
English %	Maths %	English %	Maths %	English %	Maths %
71	67	62	68	61	59

The overall response rate was 65%. An additional 4% had agreed to participate after the reminder letter but failed to return their questionnaires, 14% replied that they were unable to participate (usually due to other pressures and commitments), and there was no reply to either the original or follow-up letters from the remaining 17%.

The actual number of questionnaires returned was lower than expected for this number of participating schools as schools that were sent two or four questionnaires sometimes only returned one or two.

Characteristics of the Schools

Tables 3 to 5 compare the proportions of schools nationally, in our sample, and the actual returns, by school size, decile bands, and area.

Table 3

Comparison of national, sample, and return data on school size

School Size	Year 5			Year 7			Year 9		
	Nationally %	Sample %	Returned %	Nationally %	Sample %	Returned %	Nationally %	Sample %	Returned %
Small schools (1-120)	13	13	12	14	14	14	1	1	0
Medium schools (121-350)	44	44	41	36	36	38	9	9	8
Large schools (350+)	43	43	47	50	50	49	90	90	92

Table 4

Comparison of national, sample, and return data for school decile

Decile	Nationally %	Sample %	Returned %
Deciles 1-2	21	20	16
Deciles 3-4	21	21	18
Deciles 5-6	19	19	25
Deciles 7-8	20	20	20
Deciles 9-10	19	20	21

Table 5

Comparison of national, sample, and return data for area

Area	Nationally %	Sample %	Returned %
Main urban	50	51	55
Minor urban	11	14	11
Rural	32	28	25
Secondary urban	7	7	9

Overall, the representation of the returned questionnaires match national proportions extremely well. It is unlikely, therefore that any one single characteristic would skew the data in a significant way.

Characteristics of the Teachers

Table 6 shows the number of the teachers who returned questionnaires.

Table 6
Number of teachers who responded

Year 5		Year 7		Year 9	
English	**Maths**	**English**	**Maths**	**English**	**Maths**
129	117	113	123	95	99

The total number who returned questionnaires at Years 5 and 7 are similar but unfortunately the returns from Year 9 were lower.

Teachers were asked a number of questions about themselves and their responsibilities. Overall, 69% of the teachers who responded were female and 31% were male. Twenty seven percent had been teaching for 5 years or less and 25% had been teaching for 21 years or more. At Years 5 and 7, 31% and 47% (respectively) of the teachers had management responsibilities and the responsibilities were equally divided between middle[1] and senior[2] management. At Year 9, 45% had middle management responsibilities and 52% had no management responsibilities.

When position of responsibility was looked at by gender it was found that the proportion of male and female respondents were similar for the teacher and middle management categories, however a significantly greater proportion of males were in senior management positions[3].

Responses Reported in this Paper

Each questionnaire contained a list of assessment tools and strategies for the teachers to respond to. The tools were divided into two categories; externally developed and teacher or school developed. This paper focuses on a selection of the externally developed tools or strategies.

Teachers were asked to identify which tools they use, for what purposes, and how useful the information gained is. The purposes given for tool use were for providing information for: teaching and learning, monitoring progress, students, parents or caregivers, next years teacher, school management, or external agencies. (Parents or caregivers, next years teacher, and external agencies are not being discussed in this paper.) The usefulness of the tool for each purpose was rated using the following scale: 1 - of little or no use, 2 - of some use, 3 - useful, and 4 - very useful.

---

[1] Middle management included responsibilities such as management/PR units, Head of Department, Curriculum or Syndicate Leader, senior teachers, and Dean.
[2] Senior management included teaching Principal and teaching Deputy or Assistant Principal.
[3] 23% vs. 12%, $\chi^2 = 9.49$; $p < 0.01$

RESULTS OF SELECTED TOOLS

The Assessment Resource Banks

The Assessment Resource Banks (ARBs) are collections of assessment materials, located on the internet, which reflect the current New Zealand curriculum statements in English, mathematics, and science. The ARBs incorporate a range of assessment material varying from selected-response items to practical tasks. As at the 6 June, 2002, there are 1317 mathematics, and 576 English resources available.

The Assessment Resource Banks - Mathematics (NZ developed)

The percentage of teachers reporting that they use the Assessment Resource Banks - Mathematics (ARBs - Maths) and some of the uses of the information are shown in tables 7 and 8.

Table 7

Teachers using the Assessment Resource Banks - Mathematics

Year 5	Year 7	Year 9
%	%	%
34	39	22

Table 8

Teachers use of the information from the Assessment Resource Banks - Mathematics

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	95	91	91
Monitoring progress	75	74	68
Students	56	57	55
School management	56	55	32

Nearly all users of the ARBs - Maths use it for teaching and learning and three-quarters for monitoring progress. Just over half use it for providing information to students and school management.

The percentages of teachers rating the ARBs - Maths as useful or very useful for each given purpose are shown in table 9.

Table 9

Teachers ratings of the usefulness of the Assessment Resource Banks - Mathematics

To provide information for:	Year 5		Year 7		Year 9	
	Useful %	Very Useful %	Useful %	Very Useful %	Useful %	Very Useful %
Teaching and learning	51	27	30	47	40	45
Monitoring progress	45	29	43	34	47	27
Students	55	14	48	19	25	42
School management	32	23	54	8	29	14

Overall, nearly 80% of those who use the ARBs - Maths for teaching and learning and monitoring progress find it useful or very useful. This compares with around 67% and 53% finding it useful or very useful for providing information to students and school management.

The Assessment Resource Banks - English   *(NZ developed)*

The number of teachers responding that they use the Assessment Resource Banks - English (ARBs - English) are shown in table 10.

Table 10

Teachers using the Assessment Resource Banks - English

Year 5 %	Year 7 %	Year 9 %
21	24	20

The ARBs - English have lower rates of use than the ARBs - Maths at Years 5 and 7.

Some of the uses teachers make of the information from the ARBs - English are shown in table 11.

Table 11

Teachers use of the information from the Assessment Resource Banks - English

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	92	93	90
Monitoring progress	88	63	68
Students	54	37	53
School management	20	19	32

As with ARBs - Maths, nearly all users of the ARBs - English use it for teaching and learning and then reducing numbers for monitoring progress, students, and down to one-third to one-fifth for school management. At Years 5 and 7, uses of the ARBs - English for school management when compared with ARBs - Maths have reduced from one-half to one-fifth.

The percentages of teachers rating the ARBs - English as useful or very useful for each given purpose are shown in table 12.

Table 12
Teachers ratings of the usefulness of the Assessment Resource Banks - English

To provide information for:	Year 5		Year 7		Year 9	
	Useful %	Very Useful %	Useful %	Very Useful %	Useful %	Very Useful %
Teaching and learning	54	33	20	44	41	29
Monitoring progress	52	26	29	41	62	8
Students	50	7	30	30	30	20
School management	60	0	40	0	50	17

Overall, around three-quarters of those who use the ARBs - English for teaching and learning and monitoring progress find it useful or very useful. This is about the same as reported by users of the ARBs - Maths. There is a reduction down to around 56% who find it useful or very useful for providing information to students and school management.

Summary of the ARBs
The ARBs (mathematics and English) are used mainly for teaching and learning and monitoring progress and are seen as being useful or very useful by three-quarters of teachers for these purposes. The ARBs - Maths were seen as being more useful than ARBs - English for providing information to students. These responses reinforce that the tool is being used for its intended purposes and is well regarded by those teachers who use it.

Competition Tests

The Mathematics Competition Tests *(NZ and Australian developed)*

This comprises such tests as the Educational Testing Centre competition tests and the Otago Problem Solving tests. Depending on year level, the tests are either entirely multiple-choice or contain some free-response questions and take between 45 and 60 minutes.

The number of teachers responding that they use the Mathematics Competition Tests and some of the uses of the information are shown in tables 13 and 14.

Table 13

Teachers using the Mathematics Competition Tests

Year 5 %	Year 7 %	Year 9 %
57	66	79

Table 14

Teachers use of the information from the Mathematics Competition Tests

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	59	72	34
Monitoring progress	45	62	26
Students	71	84	71
School management	53	49	19

At Year 9, using competition tests for providing information to students stands out as the most common use. At Years 5 and 7, although providing information to students is also where the greatest use of the tool is, teaching and learning, monitoring progress, and school management are all much higher than they are at Year 9, at around one-half compared to one-quarter.

The percentages of teachers rating the Mathematics Competition Tests as useful or very useful for each given purpose are shown in table 15.

Table 15

Teachers ratings of the usefulness of the Mathematics Competition Tests

To provide information for:	Year 5 Useful %	Year 5 Very Useful %	Year 7 Useful %	Year 7 Very Useful %	Year 9 Useful %	Year 9 Very Useful %
Teaching and learning	23	8	41	12	23	12
Monitoring progress	17	7	30	8	20	10
Students	40	11	37	16	33	16
School management	26	6	38	8	27	13

Providing information to students was the only purpose for which half the teachers rated competition tests as being useful or very useful. On the whole, all the other uses were rated as being useful or very useful by around 30% to 40% of the teachers.

The English Competition Tests   *(Australian developed)*

This comprises the Educational Testing Centre Competition Tests. The tests are entirely multiple-choice and vary depending on year level from 45 minutes to 1 hour 15 minutes.

The number of teachers responding that they use the English Competition Tests and some of the uses of the information are shown in tables 16 and 17.

Table 16
Teachers using the English Competition Tests

Year 5 %	Year 7 %	Year 9 %
47	72	58

Table 17
Teachers use of the information from the English Competition Tests

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	46	54	44
Monitoring progress	31	43	47
Students	66	80	76
School management	41	44	40

As with competition tests in mathematics, providing information to students is the most common use of these tests. All other uses vary from one-third to one-half. The responses for competition tests in English are more consistent across the years than for mathematics.

The percentages of teachers rating the English Competition Tests as useful or very useful for each given purpose are shown in table 18.

Table 18
Teachers ratings of the usefulness of the English Competition Tests

To provide information for:	Year 5 Useful %	Year 5 Very Useful %	Year 7 Useful %	Year 7 Very Useful %	Year 9 Useful %	Year 9 Very Useful %
Teaching and learning	37	16	27	16	21	8
Monitoring progress	22	33	26	11	19	15
Students	27	21	43	17	38	14
School management	54	17	19	17	23	23

Once again, half the teachers rated competition tests in English as being useful or very useful for providing information to students. Although providing information to school management was rated higher for English than mathematics, overall it was only around half the teachers who once again selected useful or very useful.

Summary of Competition Tests
Competition tests had consistently quite high levels of use and relatively low levels of usefulness in relation to providing assessment information. Their greatest reported use is for providing information to students, yet only half of those who use it for this purpose find it useful or very useful. Less than 50% found them useful or very useful for monitoring progress which may be of concern given that this is one of the aims stated for the tests. However, as indicated by their high levels of use, they are providing something to schools that is desired. Our conversations with schools indicate that top students are often offered the opportunity to participate in these competition tests for experience and as an extension activity.

New Zealand Progressive Achievement Tests

Progressive Achievement Test - Mathematics   *(NZ developed)*

Progressive Achievement Test - Mathematics (PAT - Maths) was revised in 1993 and is a 50-item multiple-choice test designed to measure a students mathematical achievement. Students attempt blocks of items relating to recall, computation, understanding, and application.

The number of teachers responding that they use the PAT - Maths and some of the uses of the information are shown in tables 19 and 20.

Table 19
Teachers using the Progressive Achievement Test - Mathematics

Year 5 %	Year 7 %	Year 9 %
80	84	63

Table 20
Teachers use of the information from the Progressive Achievement Test - Mathematics

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	78	78	76
Monitoring progress	75	74	61
Students	38	46	19
School management	75	81	58

PAT - Maths is used for teaching and learning, monitoring progress, and providing information to school management at all year levels by around three-quarters of all users. Between one-fifth to one-half use it for providing information to students.

The percentages of teachers rating the PAT - Maths as useful or very useful for each given purpose are shown in table 21.

Table 21
Teachers ratings of the usefulness of the Progressive Achievement Test - Mathematics

	Year 5		Year 7		Year 9	
	Useful	Very Useful	Useful	Very Useful	Useful	Very Useful
To provide information for:	**%**	**%**	**%**	**%**	**%**	**%**
Teaching and learning	36	27	39	20	40	19
Monitoring progress	51	17	47	14	42	13
Students	23	6	26	9	25	8
School management	44	24	51	19	47	11

PAT - Maths was rated as being useful or very useful for providing information for teaching and learning, monitoring progress, and school management by around 60% to 65% of the teachers. Over all usefulness for students was low at around 32%.

Progressive Achievement Test - Test of Reading   *(NZ developed)*

The Progressive Achievement Test - Tests of Reading (PAT - Reading) were revised in 1990 and comprises a multiple-choice test assessing both factual and inferential reading comprehension, and a vocabulary test where students select a word meaning from five alternatives.

The number of teachers responding that they use the PAT - Reading and some of the uses of the information are shown in tables 22 and 23.

Table 22
Teachers using the Progressive Achievement Test - Reading

Year 5	Year 7	Year 9
%	**%**	**%**
90	93	88

Table 23

Teachers use of the information from the Progressive Achievement Test - Reading

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	83	83	74
Monitoring progress	73	73	69
Students	26	28	33
School management	73	72	64

The most common purpose at all years was for teaching and learning at around 80%, followed closely by monitoring progress and providing information for school management. Providing information to students was reported by one-quarter to one-third of the users.

The percentages of teachers rating the PAT - Reading as useful or very useful for each given purpose are shown in table 24.

Table 24

Teachers ratings of the usefulness of the Progressive Achievement Test - Reading

To provide information for:	Year 5 Useful %	Year 5 Very Useful %	Year 7 Useful %	Year 7 Very Useful %	Year 9 Useful %	Year 9 Very Useful %
Teaching and learning	37	24	40	24	42	23
Monitoring progress	38	24	33	30	41	28
Students	24	7	21	17	25	14
School management	56	20	41	21	46	26

Using PAT - Reading for providing information to school management was rated as useful or very useful by 70% of its users followed closely by teaching and learning and monitoring progress at around 65%. Usefulness for students was low at around 36%.

Progressive Achievement Test - Listening Comprehension *(NZ developed)*

The Progressive Achievement Test - Listening Comprehension (PAT - Listening) was revised in 1994 and is designed to measure a students ability to understand material presented orally. Both recall and inferential multiple-choice questions are included.

The number of teachers responding that they use the PAT - Listening and some of the uses of the information are shown in tables 25 and 26.

Table 25

Teachers using the Progressive Achievement Test - Listening Comprehension

Year 5 %	Year 7 %	Year 9 %
86	93	82

Table 26

Teachers use of the information from the Progressive Achievement Test - Listening Comprehension

To provide information for:	Year 5 %	Year 7 %	Year 9 %
Teaching and learning	83	80	74
Monitoring progress	71	75	71
Students	28	26	35
School management	76	73	62

As with PAT - Reading, the most common purpose at all years for PAT - Listening was for teaching and learning at around 80%, followed closely by monitoring progress and providing information for school management. Providing information to students was reported by one-quarter to one-third of the users.

The percentages of teachers rating the PAT - Listening as useful or very useful for each given purpose are shown in table 27.

Table 27

Teachers ratings of the usefulness of the Progressive Achievement Test - Listening Comprehension

To provide information for:	Year 5		Year 7		Year 9	
	Useful %	Very Useful %	Useful %	Very Useful %	Useful %	Very Useful %
Teaching and learning	34	21	42	22	40	21
Monitoring progress	40	19	29	31	38	27
Students	23	3	19	15	30	7
School management	61	13	39	21	50	27

Using PAT - Listening for providing information to school management was rated as useful or very useful by 70% of its users followed closely by teaching and learning and monitoring progress at around 60%. Overall usefulness for students was again low at around 32%.

Summary of PATs

The PATs have high levels of use and are used by many for multiple purposes. Overall, they appear to be reasonably useful for the purposes they are commonly used for. They are not intended as tools for reporting to students so it fits that they have low levels of use and not particularly high levels of usefulness for this purpose. However, they are intended as tools for teaching and learning and monitoring progress so the fact that most teachers found them to be useful or very useful for these purposes reinforces their value for NZ teachers. The additional spin-off is that they are also useful for providing information to school management. When information from commonly used tools can be utilised for this additional, non-classroom but required purpose, it helps to decrease a teachers workload and increase the tool's global usefulness.

Tests of Reading Comprehension   *(Australian developed)*

The Tests of Reading Comprehension (TORCH) are designed to assess the extent to which students are able to obtain meaning from text. Students read a passage and complete a retelling of the story in a modified cloze format.

The number of teachers responding that they use the TORCH and some of the uses of the information are shown in tables 28 and 29.

Table 28
Teachers using the TORCH

Year 5 %	Year 7 %	Year 9 %
14	17	9

Table 29
Teachers use of the information from the TORCH

To provide information for:	Year 5 %	Year 7 %
Teaching and learning	82	95
Monitoring progress	71	84
Students	24	37
School management	35	33

TORCH was commonly used for teaching and learning and monitoring progress. Only one-quarter to one-third of those who use the TORCH use it for providing information to students and school management.

The percentages of teachers rating the TORCH as useful or very useful for each given purpose are shown in table 30.

Table 30

Teachers ratings of the usefulness of the TORCH

To provide information for:	Year 5		Year 7	
	Useful %	Very Useful %	Useful %	Very Useful %
Teaching and learning	36	57	28	67
Monitoring progress	50	42	44	50
Students	50	0	29	43
School management	50	17	17	50

Over 90% of those who use it for teaching and learning and monitoring progress rated it as useful or very useful. Its usefulness for providing information to students and school management was divided between the years with Year 7 teachers reporting much higher levels of usefulness than Year 5 teachers.

Summary of TORCH

Although TORCH has low levels of use, it is a very useful tool for those who use it. It appears to be particularly useful for teaching and learning and monitoring progress which, given the intended purposes of this tool, reinforces its value as a useful tool for not only Australian teachers, but NZ ones as well.

Reading Prose Inventory   *(A technique rather than a tool)*

The Reading Prose Inventory is a technique which systematises the teacher's observation of a student's use of strategies when reading increasingly difficult levels of material to aid in determining appropriate instruction. Variations of the technique exist.

The number of teachers responding that they use Reading Prose Inventory and some of the uses of the information are shown in tables 31 and 32.

Table 31

Teachers using the Reading Prose Inventory

Year 5 %	Year 7 %
42	46

Table 32

Teachers use of the information from the Reading Prose Inventory

To provide information for:	Year 5 %	Year 7 %
Teaching and learning	87	94
Monitoring progress	79	90
Students	57	58
School management	58	62

Nearly all the users of Reading Prose Inventory at Year 7 use it for teaching and learning and monitoring progress. Slightly less Year 5 teachers reported that they use it, but it was still well above three-quarters. Over half also use it for providing information to students and school management.

The percentages of teachers rating the Reading Prose Inventory as useful or very useful for each given purpose are shown in table 33.

Table 33

Teachers ratings of the usefulness of the Reading Prose Inventory

	Year 5		Year 7	
To provide information for:	Useful %	Very Useful %	Useful %	Very Useful %
Teaching and learning	20	74	31	57
Monitoring progress	10	81	30	64
Students	43	33	37	40
School management	35	45	34	56

Nearly all of those who use it for teaching and learning and monitoring progress rated it as useful or very useful. It also had high levels of usefulness for providing information to students at nearly 80% and school management at 85%.

Summary of Reading Prose Inventory

Overall, this technique rates very highly for usefulness. It consistently rates as being useful for multiple purposes, including providing information to students and school management, unlike most of the other externally developed tools in this survey. So once again, by providing information for a variety of purposes it almost certainly helps reduce a classroom teacher's workload by eliminating the need to undertake various assessments for various purposes. Of those tools and strategies discussed in this paper, the Reading Prose Inventory has the greatest number of teachers reporting using it for a variety of purposes and has the highest levels of usefulness.

Tables 34 and 35 are teachers responses to their use of the other mathematics and English tools and strategies listed in the questionnaires.

Table 34

Teachers' use of other mathematics assessment tools and strategies

Assessment Tool	Year 5 %	Year 7 %	Year 9 %
Externally Developed Tools			
Beginning School Mathematics	4	2	2
Booker Profiles in Mathematics	0	2	2
National Educational Monitoring Project	16	20	7
Topic- and strand-based tests	55	40	13
Teacher or School developed Tools			
Assignments or homework	84	86	97
Checklists or rating scales	60	57	18
Conferencing or interviews	77	75	29
Exams	7	13	84
Exemplars	13	13	18
Observation	91	87	58
Peer assessment	53	51	16
Portfolios or work samples	79	70	37
School developed tests	63	66	89
Student-self assessment	69	70	30
Teacher written tests	75	83	76

Table 35

Teachers' use of other English assessment tools and strategies

Assessment Tool	Year 5 %	Year 7 %	Year 9 %
Externally Developed Tools			
Burt Word Reading Test	52	61	9
Graded Word Spelling Test	6	16	5
National Educational Monitoring Project	12	19	3
Neale Analysis of Reading Ability	2	3	3
Peters Spelling Checklist	22	25	3
Proof Reading Tests of Spelling	22	16	5
Schonell Spelling Test	34	43	9
Supplementary Tests of Achievement in Reading	25	14	5
Teacher or School developed Tools			
Assignments or homework	88	90	98
Checklists or rating scales	63	65	36
Conferencing or interviews	88	88	63
Exams	4	13	84
Exemplars	30	34	62
Observation	92	94	74
Peer assessment	75	82	74
Portfolios or work samples	89	92	63
School developed tests	38	50	81
Student-self assessment	80	82	74
Teacher written tests	66	69	37