

**A RESOURCE BANK IN ENGLISH FOR  
SCHOOL-BASED ASSESSMENT**

**Paper to 27th IAEA Annual Conference, Rio de Janeiro  
May 6–11, 2001**

*Cedric Croft*

Research Director

Learning, Curriculum and Assessment

New Zealand Council for Educational Research

## **ABSTRACT**

Assessment Resource Banks (ARBs) for English, mathematics and science are now being developed and expanded at the New Zealand Council for Educational Research. The ARBs in mathematics and science have been available to all New Zealand schools via the Internet since early 1997. English was added in September 1998. The English ARBs are the focus of this presentation.

There are in excess of 410 assessment resources available in the English ARBs at present. Each assessment resource is linked to relevant aspects of the national curriculum statement in English. The curriculum statement identifies a series of learning strands, functions, cognitive processes and achievement levels for teachers to use in their planning and teaching. The ARB search engine enables the curriculum features chosen by a teacher to be matched with valid assessment resources.

Each assessment resource included in the ARBs is made up of tasks for students and scoring guides for teachers. In addition to the correct or appropriate responses to the tasks, the scoring guides include performance data on each task, and increasingly, diagnostic information in the form of common errors or misconceptions.

The levels-based structure of the curriculum, and the need for teachers to assess to these levels, present particular difficulties for school-based assessment in English, particularly for assessing students' writing. One recent innovation in the English ARBs has been to develop level-based scoring guides, and link these to exemplars of writing that illustrate major hallmarks of writing at particular levels.

The paper outlines the range of English resources now in the ARBs and discusses their school-based uses. The particular advantages of the ARBs for school-based assessment and future areas of development within the English banks are also considered.

## 1. Introduction\*

The Assessment Resource Banks (ARBs) are collections of assessment resources located on the Internet. They are organised to match the structure and terminology of New Zealand curriculum statements in mathematics, science and English. The ARBs have been designed and developed at the New Zealand Council for Educational Research (NZCER), under contract to the New Zealand Ministry of Education. Mathematics and science resources became available in relatively small numbers in early 1997, with English added in September 1998. As at 15 March 2001, there are 1024 mathematics resources, 1099 science resources, and 395 English resources available.

Table 1 shows these numbers by level and indicates the percentage of resources in each curriculum area.

**Table 1**  
*ARB Resources by level at 15 March 2001*

|         | English | %  | Mathematics | %  | Science* | %  |
|---------|---------|----|-------------|----|----------|----|
| Level 2 | 74      | 19 | 161         | 17 | 159      | 14 |
| Level 3 | 103     | 26 | 289         | 28 | 266      | 24 |
| Level 4 | 131     | 33 | 334         | 32 | 342      | 37 |
| Level 5 | 87      | 22 | 240         | 23 | 287      | 25 |

\* 45 level 6 resources not shown.

The ARBs contain a broad selection of assessment material. Most resources require students to write answers, solve problems, undertake calculations, construct graphs and tables, complete diagrams, undertake classifications and so on. There are selections of resources in multiple-choice and matching formats as well. Practical resources in science and mathematics are also included. This range of material represents a departure from assessment materials published previously in item banks, where multiple-choice material dominated. The styles of resource included in the ARBs are described later.

\* Adapted from Croft (2001), pp. 1–5.

To utilise ARB resources an Internet connection is necessary, along with a recent version of an Explorer or Netscape browser and an attached printer. All resources are presented in a format that may be printed and photocopied. It is also possible to cut and paste resources electronically, and save ARB files to a word processing package so that a selection of the assessment tasks may be combined or readily adapted to meet particular local needs. In recent weeks ARB material has been presented in Microsoft Word format to facilitate the ease of cutting and pasting.

Access to the banks begins at the NZCER homepage at <http://www.nzcer.org.nz> which leads to the ARB homepage. To use the banks it is necessary to hold a username and password available from the on-line registration form on the ARB homepage. Staff from New Zealand schools, other registered teachers, and staff from teacher support services, the Ministry of Education, and tertiary institutions are eligible for a password. Access is available to assessment staff internationally, by arrangement with the author. The ARBs are not designed to be accessed directly by students or parents.

Effective from 1 February 2001, a redesigned site became available to users. The redesign incorporated recommendations from a report on the ARB as an electronic resource, by Ham, Findlay, Schwier and Davies (2000).

## **2. Development and expansion of the ARBs 1997–2001\***

Since opening with 125 accessible resources, in mathematics only, the ARBs have grown to 2518 resources as at 15 March 2001, including 297 resources added from the Third International Mathematics and Science Study (TIMSS). These resources added a timely boost to the mathematics and science numbers in the ARBs, but the focus of resource development on the project has been on ‘home-grown’ material.

Table 2 shows the numbers of resources published to the ARBs for the 12-month periods, 1 July to 30 June.

**Table 2**

*Number of NZCER Resources Published to ARBs in English, mathematics and science by 12 months period 1997-2000*

| 12 month periods              | English | Mathematics | Science | Total |
|-------------------------------|---------|-------------|---------|-------|
| 1 July 1997 –<br>30 June 1998 | –       | 147         | 268     | 415   |
| 1 July 1998 –<br>30 June 1999 | 140     | 233         | 210     | 583   |
| 1 July 1999 –<br>30 June 2000 | 163     | 236         | 249     | 648   |

Taking the two full years from 1 July 1998 to 30 June 2000, the annual average number of NZCER resources published to the ARBs has been 616. This number breaks down to 151 for English, 235 for mathematics and 230 for science. These figures indicate approximate future annual average growth of NZCER resources published to the ARBs, assuming present resourcing and reasonably constant specifications for the styles of assessment resource and the curriculum levels to which they apply.

For the present financial year the contract numbers for NZCER resources are as follows: English 185, mathematics 209-220, science 194-208. These numbers will be achieved. The variations to numbers for the current year, in comparison with the annual averages noted above, come about because of a slight change of emphasis to the styles of resource now being developed, and the growing expertise of colleagues working in this area.

### **3. The structure of the ARBs**

Whether we are talking of English, mathematics or science, the general principle is that the ARB subject, (or learning area), follows closely the structure of the respective National Curriculum Statement. Each learning area is organised into a series of strands, achievement objectives or functions, levels and process skills. A focus on English will give a general picture of this structure.

Each resource in English is classified in curriculum terms, by strand, function, level and process skill. Additionally, there are keywords and resource types to provide additional dimensions for each resource's classification. A search to select resources for school-based assessment may be undertaken by a single classification field or any combination of fields.

The classification fields which come directly from the curriculum are as follows:

### **Strand**

In English, the learning strands are written language, visual language and oral language.

### **Functions**

Each learning strand in English has a number of functions. The functions by strand are:

#### *Written language*

- Reading functions – Personal reading  
Close reading
- Writing functions – Expressive writing  
Poetic writing  
Transactional Writing

#### *Visual language*

- Viewing function – Viewing
- Presenting function – Presenting

#### *Oral language*

- Listening functions – Interpersonal listening  
Listening to texts
- Speaking functions – Interpersonal listening  
Using text

### **Curriculum Level**

Each learning area has eight levels. Resources in English are for levels 2–5. These correspond to about years 4-10, or in age terms, 8 year olds to 15 year olds. As used generally in Curriculum Statements, levels are more descriptive than definitive. They have elements of mastery learning or criterion referencing implicit, but they are generally a looser conceptualization than either. Generally, there are no systematic attempts by schools to ensure that a student has ‘mastered’ all content or processes implicit or explicit within a level prior to moving to the next. The workable approach developed in schools is to describe a student as “working within” a particular level. There is no requirement to assess a student’s performance within a level as for example, ‘superior’, ‘average’ or ‘failing’. But there are requirements to report the level at which a student is achieving.

### **Process Skill**

Most ARB resources are further classified by the predominant process skills. In English the process skills are exploring language, processing information and thinking critically. Each process skill is broadly defined within the English curriculum statement with key components of the skill further elaborated by strands and levels. For example:

| WRITTEN LANGUAGE ACHIEVEMENT OBJECTIVES |   |   |  |
|---|---|---|--|
| Reading and Writing Processes           |   |   |  |
|   | Exploring Language  | Thinking Critically   | Processing Information   |
| LEVELS 5 and 6                          | <p><i>In achieving the objectives of understanding and using written language, students should:</i></p> <ul style="list-style-type: none"> <li>using appropriate terminology, describe, discuss, analyse, and apply the distinctive conventions, structures, and language features of a range of texts and explain how they suit the topic and purpose</li> </ul> | <p><i>In achieving the objectives of understanding and using written language, students should:</i></p> <ul style="list-style-type: none"> <li>interpret, analyse, and produce written texts, identifying and discussing their literary qualities, and explore and identify attitudes and beliefs in terms of personal experience and knowledge of other texts</li> </ul> | <p><i>In achieving the objectives of understanding and using written language, students should:</i></p> <ul style="list-style-type: none"> <li>using appropriate technologies, retrieve, select, and interpret information from a variety of sources, and present accurate and coherent information for a range of purposes, analysing the processes used</li> </ul> |

Ministry of Education, 1994, p. 46.

| ORAL LANGUAGE ACHIEVEMENT OBJECTIVES |  |   |  |
|--------------------------------------|--|---|--|
| Listening and Speaking Processes     |  |   |  |
|                                      | Exploring Language   | Thinking Critically   | Processing Information   |
| LEVELS 3 and 4                       | <p><i>In achieving the objectives of understanding and using oral language, students should:</i></p> <ul style="list-style-type: none"> <li>identify and discuss language features and their effects in a range of texts, and use these features in speaking and recording, adapting them to the topic, purpose, and audience</li> </ul> | <p><i>In achieving the objectives of understanding and using oral language, students should:</i></p> <ul style="list-style-type: none"> <li>discuss and interpret spoken texts, considering relevant personal experiences and other points of view</li> </ul> | <p><i>In achieving the objectives of understanding and using oral language, students should:</i></p> <ul style="list-style-type: none"> <li>select, assemble, and interpret information, using appropriate technology</li> </ul> |

Ministry of Education, 1994, p. 41.



| VISUAL LANGUAGE ACHIEVEMENT OBJECTIVES |  |   |   |
|--|--|---|---|
| Viewing and Presenting Processes       |  |   |   |
|  | Exploring Language   | Thinking Critically   | Processing Information  |
| LEVELS 1 and 2                         | <p><i>In achieving the objectives of understanding and using visual language, students should:</i></p> <ul style="list-style-type: none"> <li>understand that communication involves verbal and visual features which have conventionally accepted meanings</li> </ul> | <p><i>In achieving the objectives of understanding and using visual language, students should:</i></p> <ul style="list-style-type: none"> <li>show awareness of how words and images can be combined to make meaning</li> </ul> | <p><i>In achieving the objectives of understanding and using visual language, students should:</i></p> <ul style="list-style-type: none"> <li>view and use visual texts to gain and present information, become familiar with and use appropriate technologies, and write letter and number forms legibly to present ideas</li> </ul> |

Ministry of Education, 1994, p. 30.

### Keywords

Keywords are another form of resource classification. Keywords are not a feature of the curriculum.

Each resource has keywords or phrases designed to further describe the content and predominant skills tapped by the resource. Wherever possible the keywords are directly associated with New Zealand curriculum statements, but because of variations in terminology for similar concepts, some alternative terms are required.

There is an on-line dictionary of keywords used to construct this type of search. As resources are added to the ARBs, dictionaries are expanded to include new keywords. This ensures that there is at least one resource in the bank for each entry in the dictionary. The keyword search is a very powerful aspect of the search engine. It is popular with users, as it allows a search of the banks to be undertaken by topic.

An extract from the Keyword dictionary for Visual language follows:

| <b>VISUAL LANGUAGE KEYWORDS</b> |                       |                 |                       |
|---------------------------------|-----------------------|-----------------|-----------------------|
| Acronym                         | Drawings              | Message         | Signs                 |
| Advertisement                   | Effectiveness         | Metaphor        | Similarities          |
| Arrows                          | Ellipsis              | Mime            | Speech bubbles        |
| Audience                        | Emphasis              | Mood            | Static image          |
| Background                      | Exclamation mark      | Movement        | Stereotypes           |
| Body language                   | Expression            | Movement lines  | Storyboard            |
| Book cover                      | Facial expressions    | Myth            | Sub-heading           |
| Brochure                        | Feelings              | Newspaper       | Sub-title             |
| Bullet points                   | Films                 | Pamphlet        | Symbols               |
| Caption                         | Focus                 | Personification | Target audience       |
| Captions                        | Font                  | Perspective     | Thought bubbles       |
| Camera angle                    | Gathering information | Photo           | Title                 |
| Camera shots                    | Graph                 | Photo angle     | Title page            |
| Cartoon                         | Heading               | Photograph      | Transactional writing |
| Cartoon strip                   | Headline              | Poem            | Typical features      |
| Cartoon techniques              | Humour                | Point of view   | Verbs                 |

### **Resource types**

The resources are classified into six different types to give teachers access to a range of assessments. The six types are as follows:

- **Selected response (SR).** The response is *selected* from a range of options incorporated in the resource. Two or three multiple-choice or matching items may be grouped to form one resource. Examples include:
  - \* multiple-choice items
  - \* matching items
  - \* true/false and other alternate-choice items.
- **Brief written response (BWR).** The student *writes* the response. Brief answers, such as a word or two, a phrase, a sentence or possibly a number or two are the essence of a BWR. Correct brief responses will encapsulate a single main idea. *Completing* entries in tables, flowcharts, or outlines also constitute a BWR. Examples include:
  - \* cloze passages
  - \* short-answer questions
  - \* completion items for tables, flowcharts, diagrams, plans, illustrations, etc.
  - \* supplying captions or brief direct speech excerpts.

- **Longer written response (LWR).** These have general characteristics similar to BWR but require a more extended response. The LWR resource is generally more open-ended than the BWR, and inferences may be required by the student to determine relationships within the task. *Producing* tables or flowcharts, or extended passages of direct speech, constitute a LWR, as well. Examples include:
  - \* short essay-type question, structured or unstructured
  - \* preparing a report or plan for an investigation
  - \* letters or scripts
  - \* interpreting in a broader sense diagrams, illustrations, cartoons.
- **Oral response (OR).** The predominant response is oral, although a minor written component may be included. English resources in this category will come mostly from the oral strand. This style is not yet incorporated in the ARBs.
- **Student rating or assessment (SRA).** The essence of these resources is that a rating or assessment is undertaken by students. This category makes provision for student self-assessment or peer assessment by way of rating scale, observation scale, or checklist. Resources of this type will be found predominantly in the written strand, and will focus on expressive skills in English. They are yet to be included in the ARBs.
- **Teacher rating or observation (TRO).** Resources of this type are to assist teachers' assessments of expressive skills, mostly in the written and oral strands. Multi-level assessment material comes within this category. Some multi-level marking guides are included as scoring guides within resources. Scales for assessing oral responses are presently being trialled.

Examples of teacher rating or observation material (TRO) are provided by the scoring guides to assist teachers make levels-based assessment of transactional and poetic writing. Within the curriculum these genres are defined as follows:

*Poetic writing*

Writing which has been crafted or shaped to convey ideas, thoughts, feelings, and sensory qualities to evoke a response from the reader. It is characteristic of fiction, biography, travel, and other personal narrative, as well as of poetry. (Curriculum

Statement, p. 141).

*Transactional writing*

Writing which is intended to convey factual information or to argue the validity of a point of view with objective evidence. Transactional writing is typical of the language of science, technology, trade, reporting, persuasion, legal argument, and debate.

(Ministry of Education, 1994, p. 143).

Previously, transactional writing was referred to more generally as expository writing and poetic writing was commonly referred as narrative text.

Given the lack of detail on the hallmarks of either style of writing at various curriculum levels, teachers were faced with an exacting task when they were required to assess and report the level of writing at which students were achieving. To assist validity, and improve the reliability of levels-based assessment, the following levels-based guides were developed within the ARBs.

All statements from the Curriculum which described the nature of transactional and poetic writing by level, or which illustrated particular features of writing by level, were included in the levels-based scoring guide. These are shown in the levels-based scoring guides as italic script.

Additional material was added in order to create for teachers, a series of statements indicating hallmarks of writing for either genre, at particular levels of the curriculum.

## Levels-based Assessment — Transactional Writing

|                   | Range of Tasks<br>Write in authentic contexts  | Deep Features of Writing<br>[organisation, sequence, sentences, vocabulary]   | Surface Features of Writing<br>[punctuation, grammar, syntax , spelling]  |
|-------------------|--|---|---|
| Level<br><b>1</b> | <ul style="list-style-type: none"> <li>• <i>Write instructions.*</i></li> <li>• <i>Recount events.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Writes several related sentences on the topic.</li> <li>• High frequency vocabulary predominates</li> </ul>  | <ul style="list-style-type: none"> <li>• Beginning use of full stops, capitals.</li> <li>• Beginning use of conventional syntax [word order]</li> <li>• More than 20% spelling errors (excluding proper nouns); some conventional spelling patterns evident but mostly 'semiphonetic' attempts.+</li> </ul>   |
| Level<br><b>2</b> | <ul style="list-style-type: none"> <li>• <i>Write instructions.</i></li> <li>• <i>Write explanations.</i></li> <li>• <i>Recount events.</i></li> <li>• <i>State facts and opinions.</i></li> </ul>                                       | <ul style="list-style-type: none"> <li>• Includes several ideas some with supporting detail.</li> <li>• Some sequencing is evident.</li> <li>• Beginning to vary sentence beginnings and length.</li> <li>• Beginning to extend sentences with conjunctions.</li> <li>• Vocabulary broadening beyond high frequency.</li> </ul>   | <ul style="list-style-type: none"> <li>• Mostly correct uses of full stops, capitals, commas for listing, and question marks.</li> <li>• Beginning to use quotation marks.</li> <li>• Conventional syntax generally evident.</li> <li>• Between 10% and 20% spelling errors (excluding proper nouns) and moderated by breadth of vocabulary with majority recognisable. Increasing conventional spelling patterns evident, with mostly 'phonetic attempts'.+</li> </ul>   |
| Level<br><b>3</b> | <ul style="list-style-type: none"> <li>• <i>Write instructions.</i></li> <li>• <i>Write explanations.</i></li> <li>• <i>Write factual accounts.</i></li> <li>• <i>Express personal viewpoints.</i></li> </ul>                            | <ul style="list-style-type: none"> <li>• Beginning to support main ideas with some details.</li> <li>• <i>Sequences ideas logically.</i></li> <li>• Beginning to organise some ideas into paragraph.</li> <li>• Varies sentence beginnings and length.</li> <li>• Beginning to structure sentences in a variety of ways and may use complex sentences, consisting of more than one subordinate clause..</li> <li>• Beginning to use vocabulary appropriate to task/genre.</li> </ul>  | <ul style="list-style-type: none"> <li>• Mostly correct use of full stops, capitals, commas, question marks, exclamation marks and quotation marks.</li> <li>• Control of verb forms i.e. singular/plural agreement ,subject/verb agreement and tense.</li> <li>• <i>Conventions such as spelling appropriate to genre.</i></li> <li>• Between 5% - 10% spelling errors (excluding proper nouns) and modified by breadth of vocabulary. Shows clear phonetic mapping; conventional patterns increasing in number and variety.+</li> </ul> |
| Level<br><b>4</b> | <ul style="list-style-type: none"> <li>• <i>Write instruction.</i></li> <li>• <i>Write explanations.</i></li> <li>• <i>Write factual accounts.</i></li> <li>• <i>Express and explain a point of view.</i></li> </ul>                     | <ul style="list-style-type: none"> <li>• Consistently includes details to support main ideas.</li> <li>• Organise ideas into coherent paragraphs.</li> <li>• <i>Organises and links ideas logically.</i></li> <li>• <i>Make language choices appropriate to the audience.</i></li> <li>• Varies sentence beginnings and sentence length to suit purpose.</li> <li>• Structure sentences in a variety of ways with increasing use of complex sentences consisting of more than one subordinate clause.</li> <li>• Vocabulary generally appropriate to task/genre.</li> </ul> | <ul style="list-style-type: none"> <li>• Accurate use of full stops and capitals, commas, question marks, exclamation marks, speech marks, apostrophes, parentheses, dashes, colons, semi-colons, ellipses.</li> <li>• <i>Using appropriate spelling.</i></li> <li>• 3% - 5% errors ( excluding proper nouns) and moderated by breadth of vocabulary.+</li> </ul>   |
| Level<br><b>5</b> | <ul style="list-style-type: none"> <li>• <i>Write coherent</i></li> <li>- <i>logical instructions</i></li> <li>- <i>explanations</i></li> <li>- <i>factual accounts.</i></li> <li>• <i>Express and argue a point of view.</i></li> </ul> | <ul style="list-style-type: none"> <li>• <i>Links main and supporting ideas.</i></li> <li>• Strong sequential structures evident within and between paragraphs.</li> <li>• <i>Structures material in appropriate styles.</i></li> <li>• Evidence of vocabulary carefully chosen for task.</li> </ul>  | <ul style="list-style-type: none"> <li>• <i>Using conventions of writing accurately and confidently (punctuation, grammar).</i></li> <li>• Wide use of subordinated structures in sentences with errors rare and variety in length.</li> <li>• Conventional spelling predominates.</li> </ul>   |
| Level<br><b>6</b> | <ul style="list-style-type: none"> <li>• <i>Write clear</i></li> <li>- <i>coherent instructions</i></li> <li>- <i>explanations</i></li> <li>- <i>factual reports.</i></li> <li>• <i>Express and justify a point of view.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• <i>Uses appropriate styles for different audiences.</i></li> <li>• <i>Justifies point of view persuasively.</i></li> <li>• <i>Structures material confidently.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• <i>Using conventions of writing accurately and with discrimination.</i></li> </ul>   |

\* Statements from Curriculum, pp. 34-35, 92-100 in *italics*.

+Based on data from NZCER National Survey of Primary Writing, Croft & Mapa. 1998.

NZCER [July 2000] Assessment Resource Banks. Revised, March 2001.

## Levels-based Assessment — Poetic Writing

|                   | Range of Tasks<br>Write on a variety of topics  | Deep Features of Writing<br>[language, organisation, sentences, vocabulary]  | Surface Features of Writing<br>[punctuation, grammar, syntax , spelling]  |
|-------------------|---|--|---|
| Level<br><b>1</b> | <ul style="list-style-type: none"> <li>• <i>Beginning to shape ideas.*</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Writes several related sentences on topic.</li> <li>• High frequency vocabulary predominates</li> </ul>   | <ul style="list-style-type: none"> <li>• Beginning use of full stops, capitals.</li> <li>• Beginning use of conventional syntax [word order]</li> <li>• More than 20% spelling errors (excluding proper nouns); some conventional spelling patterns evident but mostly 'semiphonetic' attempts.+</li> </ul>   |
| Level<br><b>2</b> | <ul style="list-style-type: none"> <li>• <i>Shaping ideas in a number of genres such as</i> <ul style="list-style-type: none"> <li>• <i>letters</i></li> <li>• <i>poems</i></li> <li>• <i>narrative</i></li> </ul> </li> </ul>                          | <ul style="list-style-type: none"> <li>• <i>Making choices in language and form.</i></li> <li>• Story line with sequential structure evident, some descriptive detail.</li> <li>• Beginning to vary sentence beginnings and sentence length.</li> <li>• Beginning to extend sentences with conjunctions.</li> <li>• Vocabulary broadening beyond high frequency.</li> </ul>  | <ul style="list-style-type: none"> <li>• Mostly correct uses of full stops, capitals, commas for listing, and question marks.</li> <li>• Beginning to use quotation marks.</li> <li>• Conventional syntax generally evident.</li> <li>• Between 10% and 20% spelling errors (excluding proper nouns) and moderated by breadth of vocabulary with majority recognisable. Increasing conventional spelling patterns evident, with mostly 'phonetic attempts'+.</li> </ul>   |
| Level<br><b>3</b> | <ul style="list-style-type: none"> <li>• <i>Shaping, editing, and reworking texts in a range of genres</i> <ul style="list-style-type: none"> <li>• <i>letters</i></li> <li>• <i>poems</i></li> <li>• <i>narrative</i></li> </ul> </li> </ul>           | <ul style="list-style-type: none"> <li>• Beginning to incorporate some descriptive detail of setting and character to support story line.</li> <li>• Beginning to organise ideas into paragraphs.</li> <li>• <i>Sentence structure appropriate to genre.</i></li> <li>• Varies sentence beginnings and length.</li> <li>• Beginning to structure sentences in a variety of ways and may use complex sentences, consisting of more than one subordinate clause.</li> <li>• <i>Vocabulary appropriate to genre.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Mostly correct use of full stops, capitals, commas, question marks, exclamation marks and quotation marks.</li> <li>• Control of verb forms i.e. singular/plural agreement ,subject/verb agreement and tense.</li> <li>• <i>Conventions such as spelling appropriate to genre.</i></li> <li>• Between 5% - 10% spelling errors (excluding proper nouns) and modified by breadth of vocabulary. Shows clear phonetic mapping; conventional patterns increasing in number and variety.+</li> </ul> |
| Level<br><b>4</b> | <ul style="list-style-type: none"> <li>• <i>Shaping, editing, and reworking texts in a range of genres</i> <ul style="list-style-type: none"> <li>• <i>letters</i></li> <li>• <i>poems</i></li> <li>• <i>narrative</i></li> </ul> </li> </ul>           | <ul style="list-style-type: none"> <li>• <i>Expressing ideas and experiences. imaginatively;</i> occasional use of figurative language and or innovative use of vocabulary.</li> <li>• Organises ideas into coherent paragraphs.</li> <li>• Narratives include descriptive detail of character and setting.</li> <li>• <i>Using appropriate sentence structure.</i><br/>Varies sentence beginnings and sentence length to suit purpose.</li> <li>• Structure sentences in a variety of ways with increasing use of complex sentences, consisting of more than one subordinate clause.</li> <li>• <i>Using appropriate vocabulary.</i></li> </ul> | <ul style="list-style-type: none"> <li>• Accurate use of full stops and capitals, commas, question marks, exclamation marks, speech marks, apostrophes, parentheses, dashes, colons, semi-colons, ellipses.</li> <li>• <i>Using appropriate spelling.</i></li> <li>• 3% - 5% errors ( excluding proper nouns) and moderated by breadth of vocabulary.+</li> </ul>   |
| Level<br><b>5</b> | <ul style="list-style-type: none"> <li>• <i>Shaping, editing, and reworking texts in an extended range of genres</i> <ul style="list-style-type: none"> <li>• <i>letters</i></li> <li>• <i>poems</i></li> <li>• <i>narrative</i></li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <i>Selecting appropriate language features.</i> Uses figurative language and innovative use of vocabulary with control and intent.</li> <li>• Strong sequential structure evident within and between paragraphs.</li> <li>• Maintains appropriate vocabulary throughout.</li> </ul>   | <ul style="list-style-type: none"> <li>• <i>Using conventions of writing accurately and confidently (punctuation, grammar).</i></li> <li>• Wide use of subordinated structures in sentences with errors rare and variety in length.</li> <li>• Conventional spelling predominates.</li> </ul>   |
| Level<br><b>6</b> | <ul style="list-style-type: none"> <li>• <i>Shaping, editing, and reworking texts to express ideas imaginatively in a range of genres</i></li> </ul>  | <ul style="list-style-type: none"> <li>• <i>Choosing appropriate language features.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• <i>Using conventions of writing accurately and with discrimination.</i></li> </ul>   |

\* Statements from Curriculum, pp. 34-35, 92-100 in *italics*.

+ Based on data from NZCER National Survey of Primary Writing, Croft & Mapa 1998. NZCER [July 2000] Assessment Resource Banks. Revised, March 2001.

A series of trials and refinements were undertaken until the levels-based scoring guides were

published in December 2000. A general conclusion from the trials was that the scoring guides were instrumental in achieving 80 percent agreement by level, for groups of teachers assessing samples of writing. Part of the process of learning to apply these guides accurately, was for groups of teachers involved to identify the standards they adopted when assessing with the scoring guides.

#### **4. The makeup of a resource**

The ARBs are now the major nationally developed assessment resources in New Zealand linked to national curriculum statements. They provide nationally derived performance data for each item, question, or task within a resource.

Each resource is presented in two parts: the questions or tasks for the student, and the scoring guide for the teacher. This latter part includes performance data, and in many instances, examples of diagnostic information. The diagnostic information is developed from an intensive analysis of errors found in responses from the national samples of students. At the time of writing, mathematics and some science resources include diagnostic information. The applicability of this category is yet to be investigated for English.

Diagnostic information includes common errors, examples of common misunderstandings, and, where possible, likely misconceptions and incorrect calculations (Neill, 1997). The term “diagnostic” is incorporated in the keyword dictionary, so a search may be made for all resources in the banks which have this information. If a more specific outcome is needed the search may be directed to particular strand(s), level(s), achievement objective(s), and so on.

The scoring guide for each response includes correct answers to questions and appropriate responses to tasks, a scale of marks, and information about the difficulty level of each question or task within a resource. These data are obtained from trials on groups of about 200 students from seven or eight representative schools. The five descriptive statements and corresponding difficulty levels are:

| <b>Difficulty estimate</b> | <b>Percentage correct</b> |
|----------------------------|---------------------------|
| Very easy                  | 80% and above             |
| Easy                       | 60% to 79%                |
| Moderate                   | 40% to 59%                |
| Difficult                  | 20% to 39%                |
| Very difficult             | 19% and below             |

The scoring guide also shows the year level(s) for which the data were collected and the date of the trial.

## **5. Present coverage of curriculum and resource types**

Table 1 summarised the total number of resources by level and learning area, as at 15 March 2001. Table 3 shows numbers of resources by strand, achievement objective or function, and styles of assessment resource for English, as at 15 March 2001.



**Table 3**

*Total Number of English Resources Accessible from the Website  
by Strand and Language Function, and by Curriculum Level and Resource Type*

|         | ORAL  |        |      |        | WRIT  |        |      |       |        | VIS  |         |
|---------|-------|--------|------|--------|-------|--------|------|-------|--------|------|---------|
|         | ListT | InterL | UseT | InterS | PersR | CloseR | ExpW | PoetW | TransW | View | Present |
| Level 2 |       |        |      |        |       |        |      |       |        |      |         |
| SR      |       |        |      |        |       |        |      |       |        | 1    |         |
| SWR     |       |        |      |        |       | 32     |      | 2     | 6      | 28   |         |
| LWR     |       |        |      |        |       |        |      | 2     | 3      |      |         |
| OR      |       |        |      |        |       |        |      |       |        |      |         |
| SRA     |       |        |      |        |       |        |      |       |        |      |         |
| TRO     |       |        |      |        |       |        |      |       |        |      |         |
| Level 3 |       |        |      |        |       |        |      |       |        |      |         |
| SR      |       |        |      |        |       | 4      |      |       |        | 2    |         |
| SWR     |       |        |      |        |       | 50     |      | 1     | 2      | 20   |         |
| LWR     |       |        |      |        |       |        |      | 11    | 17     |      |         |
| OR      |       |        |      |        |       |        |      |       |        |      |         |
| SRA     |       |        |      |        |       |        |      |       |        |      |         |
| TRO     |       |        |      |        |       |        |      |       |        |      |         |
| Level 4 |       |        |      |        |       |        |      |       |        |      |         |
| SR      |       |        |      |        |       | 7      |      |       |        |      |         |
| SWR     |       |        |      |        |       | 61     |      |       | 4      | 27   |         |
| LWR     |       |        |      |        |       | 2      |      | 14    | 21     |      |         |
| OR      |       |        |      |        |       |        |      |       |        |      |         |
| SRA     |       |        |      |        |       |        |      |       |        |      |         |
| TRO     |       |        |      |        |       |        |      |       |        |      |         |
| Level 5 |       |        |      |        |       |        |      |       |        |      |         |
| SR      |       |        |      |        |       | 6      |      |       |        |      |         |
| SWR     |       |        |      |        |       | 31     |      |       | 2      | 35   |         |
| LWR     |       |        |      |        |       |        |      | 4     | 15     |      |         |
| OR      |       |        |      |        |       |        |      |       |        |      |         |
| SRA     |       |        |      |        |       |        |      |       |        |      |         |
| TRO     |       |        |      |        |       |        |      |       |        |      |         |
| Totals  |       |        |      |        |       | 193    |      | 25    | 61     | 113  |         |
|         |       |        |      |        |       | 297    |      |       |        | 113  |         |

Visual language was the first strand to be developed, with an emphasis on short written response material. There are now 113 resources in this strand. A concerted effort was made at level 2, as this was an area identified as having little assessment material available. There are now 28 resources at this level. Written language followed, with initial emphasis on close reading. This

was an area we could develop and publish quickly on the basis of our existing expertise. Additionally, we were able to offer cloze passages and predominantly short written response material, which differed from most other published material for reading comprehension in New Zealand.

Once reasonable coverage had been achieved with the 193 resources in the close reading function, our focus moved to poetic and transactional writing, where we presently have 86 resources. As an adjunct to the new levels-based scoring guides for poetic and transactional writing we will publish about 60 exemplars of students responses by June 30. The exemplars will help illustrate features of the levels-based guides and help teachers assess students' writing in authentic classroom contexts.

The oral strand is yet to be opened. There are 15 resources presently prepared and we are working to have 25 completed by June 30. We judge 25 to be the minimum number needed to open a new strand.

Across the three learning areas generally, the aim has been to develop and publish about 60 percent of resources at levels 3 and 4. This is because of the large proportion of students in primary, intermediate, and in some cases secondary schools, working at these levels. Level 5 has been planned at about 25 percent of the resources, and level 2 at about 15 percent. These proportions have been generally achieved across the ARBs, except that for English, slightly more level 2 resources and slightly fewer level 5 resources are evident.

## **6. Using the assessment resources in classrooms**

The ARBs provide valid and reliable assessment material for seven main school-based assessment purposes. These are summarised below. They are discussed in detail in Croft (1999).

- **Formative assessment** helps teachers examine how well individuals or groups have learned particular skills. Future teaching may then be based on this assessment. As most recent ARB resources have been developed with formative assessment in mind, this is to become the major school-based use of the material.
- **Diagnostic assessment** helps identify students' common errors and misconceptions. Many individual resources report diagnostic information on the basis of the responses of trial samples. Some resources may be combined to produce classroom assessments with a reasonably specific diagnostic focus.

- **Summative assessment** is usually carried out to summarise or examine achievement at a given point in time. Many ARB resources (including those with a strong formative focus) may be suitable for summative purposes.
- **Pre- and post-tests** are another possible use of the resources, as teachers may select these to examine levels of knowledge and understanding before or after a new phase of teaching.
- **Confirming and reporting levels of achievement** is possible for individuals or groups, since each ARB resource is built to assess identified achievement objectives at particular curriculum levels. Judgments about levels of achievement should not be made on the basis of a single resource.
- **Monitoring and evaluating school-wide performance over time** may be achieved by repeated administration of selected resources. Changes in the performance of students within the school may then be evaluated by using the performance data incorporated in the scoring guides.
- **Exemplars for teacher-made assessments** is another possible use of the material. The resources have been prepared using generally accepted guidelines for test development. Teachers who need to prepare their own assessments may wish to adapt some resources.

## **7. The contributions of ARBs to school-based assessment**

At the outset the ARBs were to have a strong summative role in national testing strategies, but subsequently, their focus has turned more towards supporting teachers' use of formative assessment strategies. The former summative role has been described in Croft et al. (1996). It has been noted by Mendelovits et al. (2000), that the former summative purposes of the ARBs have probably influenced the nature of some material published prior to 2000.

But the change in policy aside, what new dimensions do the ARBs bring to school-based assessment? One new dimension is that all assessment materials published in the ARBs are developed co-operatively by assessment specialists and teachers, trialled nationally, then chosen by individual teachers to represent their own teaching objectives. The development process ensures acceptable levels of curriculum validity and test reliability. The selection process enhances classroom validity, as teachers are empowered to select assessment resources that best match their curriculum objectives and teaching programmes.

From the outset it was envisaged that giving teachers the opportunity to select assessment material for their students would be a major contribution to enhancing validity, as an implicit aspect of current policy is that the individual teacher is best placed to exercise this choice. Although this places a major responsibility on all teachers using the ARBs, feedback in the early stages of the project (Reid et al., 1994) and later from Hattie and Gilmore (2000), indicated that most teachers regard as positive, the opportunity to control to a large extent, the assessment material administered in their classrooms. Our recent messages to teachers have been to utilise the power of an ARB search to match selectively, curriculum objectives and assessment material. It would be false to give the impression that selective searching is embraced totally by all users, as Gilmore and Hattie (2000), did note that a number of users were printing screeds of material from the ARBs and using them more in the manner of hard copy material.

The ARBs are not developed to function as alternatives to a school's own assessment procedures, but are seen as a complementary source of nationally developed material. They provide additional resources for formative assessment purposes, or to help teachers judge the relative performance of their students against the "typical" performance of national samples of students at given year levels.

With the bulk of assessments in the primary school sector being of an informal nature, i.e., informal tests, conferencing, observation, running records (Croft, Strafford and Mapa, 2001), data from national samples provide a complementary external measure of defined tasks linked to curriculum objectives. However, the nature of the data is such that it needs wise and careful evaluation, as it must be interpreted from the broad national picture of schools. It is one thing to know that nationally, a certain ARB task is of moderate difficulty (answering correctly by between 40% – 59% of students nationally), but another thing to be able to judge how applicable these norms are to the standards or expectations of a particular school!

For secondary schools the value of the performance data may be restricted to helping choose tasks of appropriate difficulty, as much secondary assessment involving ARB resources seems to be for summative purposes, and the chief value of the resource is its close articulation with the curriculum.

## 8. Looking ahead

Looking beyond the use of ARB resources within individual classrooms or schools, there is now a rapid accumulation of data from trials. This information has the potential to indicate how national samples of children are performing within the areas of English, mathematics or science.

The database which has been established to handle trial data now has information on the performance of more than 60,000 students, with analyses possible on many combinations of curriculum outcomes, school type and individual student variables. Insights from these data would be invaluable as part of an empirical review of curriculum, and would have advantages over relying solely on teachers' anecdotal judgments about the areas of the curriculum that "work" and those that "do not work".

When the data are required for curriculum review purposes, information from the performance of diverse national samples on ARB resources is potentially more useful than data from a single form of national testing. This is because data combined from numerous ARB resources enable a broader range of curriculum outcomes to be assessed, than is likely under the restrictions of a single national test.

Marston and Croft (1999) have noted that

"ARBs are now established as the major collection of nationally developed material in science, mathematics, and English, published for classroom assessment purposes. As the ARBs accumulate data on national achievement in these three learning areas, they will become valuable sources of information on national achievement trends. They will provide an objective basis for reviewing curriculum statements and focusing teachers' professional development . . ."

Although the potential for broader reporting of curriculum outcomes is not the major purpose of the ARBs, its potential contribution is worth noting and planning for.

Within English, future priorities include opening the oral language strand and adding samples of student writing to the ARBs in order to help teachers interpret the scoring guides for transactional and poetic writing. Planning to achieve a more systematic coverage of the exploring language function is another priority. There is abundant scope too, to extend the material in visual language and broaden the present material in close reading.

With some minimum coverage of the English Curriculum Statement now achieved, the time is right to extend diagnostic information to English resources. This will require the identification of suitable tasks, and the analysis of responses to these tasks in order to identify details of students' responses that are likely to be helpful to teachers. A framework for reporting this diagnostic information will need to be developed.

The present contract with the New Zealand Ministry of Education for the ARB project extends to June 30, 2001. There are indications that the work is to proceed beyond this point and that the ARBs are to be consolidated as a continuing component of current assessment policy in New Zealand.

### **Acknowledgment**

The general plan of development and the overall priorities and quality of the ARBs are my responsibility. Much of the specific work reported in this paper has been undertaken by my colleagues Gareth Rapson, Sue McDowall and Ed Strafford.

## References

- Croft, C. (2001). *Assessment resource banks in English, mathematics and science: Criteria for determining the optimum size and nature of the ARBs: Report to Ministry of Education*. Wellington: New Zealand Council for Educational Research.
- Croft, C. (1999). *School-wide assessment: Using the assessment resource banks*. Wellington: New Zealand Council for Educational Research.
- Croft, C., Gilbert, A., Boyd, S., Burgon, J., Dunn, K., Burgess, L., & Reid, N. (1996). *Assessment resource banks in mathematics and science: Transition-point assessment – part 2: Implementation trial*. Wellington: New Zealand Council for Educational Research.
- Croft, C., & Mapa, L. (1996). *NZCER National Survey of Primary Writing*. Unpublished report.
- Croft, C., Strafford, E., & Mapa, L. (2001). *Stocktake/evaluation of existing diagnostic tools in literacy and numeracy, in English: A report to the Ministry of Education*. Wellington: New Zealand Council for Educational Research.
- Gilmore, A., & Hattie, J. (2000). *Evaluation of the assessment resource banks in schools: Final report*. Unit for Studies in Educational Evaluation, Department of Education, University of Canterbury and School of Education, University of Auckland.
- Ham, V., Findlay, G., Schwier, R., & Davies, G. (2000). *Evaluation of the assessment resource banks as an electronic resource: Report to the Ministry of Education*. Christchurch: Christchurch College of Education.
- Marston, C., & Croft, C. (1999). *What do students know in science? Analysis of data from the assessment resource banks*. Wellington: New Zealand Council for Educational Research.
- Mendelovits, J., Farkota, R., & Lindsey, J. *Evaluation of the New Zealand assessment resource banks' methodology for Ministry of Education, New Zealand*. Hawthorn, Australia: Australian Council for Educational Research.
- Ministry of Education. (1993). *New Zealand curriculum framework: Te anga marautanga o Aotearoa*. Wellington: Ministry of Education, Learning Media.
- Ministry of Education. (1994). *English in the New Zealand curriculum*. Wellington: Learning Media.

Neill, A. (1997, December). *Time or place? Diagnostic information in mathematics*. Paper presented at the annual conference of the New Zealand Association of Research in Education, Auckland.

Reid, N., Armstrong, L., Atmore, D., Boyd, S., Croft, C., & Livingstone, I. (1994). *Assessment resource banks feasibility study: Summary report*. Wellington: New Zealand Council for Educational Research.