What can we learn from ICAS – Spelling Year 3 results?

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The design of ICAS – Spelling
ICAS – Spelling was developed as a spelling assessment with a clear belief that, despite the complexity of the English language, English spelling is largely predictable and rules-based and that, therefore, spelling knowledge can be taught and learned. Educational Assessment Australia (EAA) believes that learning to spell is an important skill, intimately related to alphabet and phonic knowledge, which underpin the development of reading and writing.

The building blocks of spelling are the following:
- high-frequency sight words (e.g. the, you, some, one);
- phonics or the knowledge of how sounds are represented by letters or combination of letters, and the knowledge that some sounds are represented by more than one combination;
- spelling generalisations such as knowing to double the final consonant when adding a suffix to retain the short vowel sound in the base word, or knowing that adding an e or i after c or g changes their pronunciation, or knowing that compound words do not lose or gain any letters when the component words are combined;
- etymology or the knowledge of the origins of a word or parts of a word and how these parts combine.

ICAS – Spelling uses these building blocks when selecting words to be assessed.

Both the Australian and New Zealand curricula strongly encourage the teaching of phonics to improve reading skill. This emphasis on the teaching of phonics and word knowledge is supported by ICAS – Spelling. EAA believes that the systematic teaching of phonics and spelling generalisations will not only improve student ability in reading but also in spelling and, by extension, writing.

ICAS – Spelling assesses spelling in four different ways. Section A assesses spelling using a dictated word list. This is the ‘purest’ form of spelling as there is no interference from distractors; however, the way a word is pronounced may influence how it is perceived by students, and may affect how it is spelt. Therefore, particular care is taken not to select words which have variations in pronunciation e.g. mischievous (pronounced as /mis-chee-vi-us/ or /mis-chi-vus/).

Section B is the multiple-choice section and is the one that best supports the assessment of spelling generalisations, compound words, homophones, and the understanding that a sound can be represented in more than one way. The majority of questions in this section are targeted at assessing these.

Section C supports the assessment of spelling in a more authentic context in that students are required to identify incorrect words in a piece of continuous writing. This reflects a practice used in classrooms where students are required to re-read and edit their work for spelling and other errors.
Section D presents the next step from Section C: here, the words containing spelling errors are indicated and students have to write the word correctly.

The relationship between spelling, reading and writing
Spelling involves a decoding of words into sounds and letter patterns while reading and writing require the encoding of sounds and letter patterns into meaning. Therefore, spelling, reading and writing have a relationship that is mutually reinforcing: what students learn in one area, they can apply to the others.

In the classroom context, spelling is usually assessed in two ways: as a component of a writing task and as a list of ‘spelling words’. As a component of a writing task, correct spelling makes one’s writing intelligible to readers, and therefore it is crucial in enabling students to express their ideas. However, when marking student writing, teachers are often focussed on other aspects of the task such as structure, coherence and grammar; as a result, spelling is not usually given a high priority.

Moreover, a major issue in assessing spelling as part of writing is that it is hard to compare one student’s spelling ability with another’s as students make different vocabulary choices in their writing. For example, one student could choose only high frequency words and spell them all correctly whereas another student could choose more low frequency challenging spelling words and get some right and some wrong. At face value, the former may seem a better speller as they have spelt all words correctly. However, it is not possible to tell from this single task if this student can spell correctly the low frequency challenging words that the other student used. It is therefore difficult to compare the two students.

A spelling word list is used by many primary schools to teach both spelling and vocabulary. Assessing spelling against a set list makes comparison easier and better allows teachers to judge how a student is faring. Such a spelling test, though, is a more artificial construct and there is no guarantee that a student who can spell a word correctly in a ‘spelling test’ can spell it correctly in a more authentic writing task.

EAA believes that if schools use spelling word lists, then phonics and spelling generalisations should form the basis of these lists. While theme-based word lists are useful for extending vocabulary, word lists specifically targeted at teaching spelling and, by extension, reading, should target letter-sound relationships and/or spelling generalisations.

What can we learn from ICAS – Spelling Year 3 results?
The reality of the difficulty in assessing spelling is that the range of words available to be assessed is as large as the entire English lexicon. ICAS – Spelling aims to assess words that are mainly within the vocabulary range of students of that age group, whether they use those words themselves or would have read them in books. The results discussed below are therefore only generally representative of what students can do. The focus is on the implications of these results on the teaching of spelling and reading.

For some words, ICAS – Spelling results show that the difference between the most able third and least able third of Year 3 students can be up to 60 percentage points, that is, for example, 90% of the most able third could be spelling a word correctly that only 30% of the least able are getting
correct. We need to find out what these words are and try to understand the reasons for the disparity in results. We then need to ask what we can do to reduce the gap.

**Letter-sound relationships/letter patterns**

Students can typically spell high-frequency monosyllabic words with a long vowel sound as a result of the final silent ‘e’. For example, *bone* had a 0.98 facility rate in 2015 and even the harder *shake* had a 0.94 facility rate in 2014.

**ICAS** – Spelling also assesses a range of digraphs (two letters that combine to make one sound e.g. /sh/, /ea/), trigraphs (three letters that combine to make one sound e.g. /tch/, /our/ as in *course*) and blends (two or three letters that go together but where each letter is sounded e.g. /nd/, /spl/). When the less common letter combinations are assessed, what is particularly notable is the performance gap between the most able third and the least able third. Some examples are given below:

- *flown* was assessed in 2015 and had a facility rate of 0.65; the facility rate of the top third was 0.88, the bottom 0.34;
- *stalk* was assessed in 2014 and had a facility rate of 0.60; the facility rate of the top third was 0.86, the bottom 0.25;
- *coupon* was assessed in 2014 and had a facility rate of 0.43; the facility rate of the top third was 0.75, the bottom 0.13;
- *kitchen* was assessed in 2013 (misspelt as *kichin* for students to correct) and had a facility rate of 0.67; the facility rate of the top third was 0.92, the bottom 0.30.

In addition, there are more complex letter patterns such as /augh/, /ough/ and /tion/. The word *caught* was assessed in 2015 and had a facility rate of 0.69; the top third had a facility rate of 0.95, the bottom 0.28. The same letter pattern was assessed in 2014 in Section B (multiple choice) in *naughty* which was misspelt as *noughty* among other words with the /ough/ letter pattern. This item had a facility rate of 0.78. The difference between the top and bottom third was less marked: 0.98 and 0.45 respectively. This is probably a reflection of the way the word was assessed: as a multiple-choice item rather than a dictated word. This means that students have to select the correct word from four choices, rather than have to produce a correct spelling themselves.

The results show that the lower ability group of students have significantly greater difficulty mastering these less common letter-sound combinations. An interesting exception is *juice* which was assessed in 2014 and had a facility rate of 0.87; the top third had a facility rate of 0.99 and the bottom third had a rate of 0.63. Although the combination /ui/ is rarely used as a digraph, its high frequency probably meant that students of all abilities had few problems with the word. Interestingly, it is possible that students did not break the word down into its component parts but understood the word as a whole, like a sight word.

Organising words into groups of letter-sound relationships and letter patterns helps make English words predictable. Grouping words based on sounds or phonemes allows ‘chunking’ to occur. ‘Chunking’ is the term used in psychology for how people group together pieces of information with similar features. In this way, recalling one piece of information brings similar pieces of information to mind. Research shows that effective learners use this technique.
Phonics allows the use of ‘chunking’ to aid the teaching of reading and spelling. ‘Chunking’ information for students and teaching students how to ‘chunk’ information can be actively used to help lower ability students. The more students are able to learn words in ‘chunks’, the more words they will learn. This is why spelling lists organised using phonic knowledge and spelling generalisations help students learn more effectively.

**Spelling generalisation: Adding suffixes to words**

English is a language that uses affixes (prefixes and suffixes) to express meaning. Knowledge of meaning units within words (morphemes) and word origins guide the way affixes are added.

In terms of spelling, the addition of affixes can be generalised. Prefixes do not usually affect the spelling of the base word. The same cannot be said for suffixes. When adding a suffix, for example, to keep a short vowel short, double the final consonant; or to keep the long vowel sound, drop the silent ‘e’; or in words ending in short vowel sound ‘y’, change ‘y’ to ‘i’. Students need to know these generalisations and then learn the exceptions.

These generalisations form another group of words that is assessed in ICAS – Spelling. The following are examples of items that assess rules regarding suffix addition in Section A (dictation):

- *hiding* was assessed in 2015 and had a facility rate of 0.85; the facility rate of the top third was 0.97, the bottom 0.67;
- *sprained* was assessed in 2015 and had a facility rate of 0.57; the facility rate of the top third was 0.87, the bottom just 0.19 – The most common error was not in the consonant blend /spr/ or the digraph /ai/ but in the past tense suffix when students added only /d/ instead of /ed/.

Spelling rules are usually assessed in Section B (multiple-choice) as this section allows a targeted assessment. To test the addition of a suffix, ICAS – Spelling normally presents the base word (e.g. *run*) and the word with the suffix added (e.g. *running*). The options are presented in a table and students have to select the option where the suffix is added correctly. Here are the results of some items:

- *gloomy* was assessed in 2015 (the distractors were *curlly, stary* and *tastey*) and had a facility rate of 0.67; the facility rate of the top third was 0.90, the bottom 0.33;
- *miner* was assessed in 2015 (the distractors were *shoper, beginer* and *rober*) and had a facility rate of 0.49; the facility rate of the top third was 0.76, the bottom 0.18;
- *shadows* was assessed in 2014 (the distractors were *heros, familyys* and *elfs*) and had a facility rate of 0.59; the facility rate of the top third was 0.84, the bottom 0.32;
- *loaves* was assessed in 2013 (the distractors were *glases, storys* and *tomatos*) and had a facility rate of 0.51; the facility rate of the top third was 0.78, the bottom 0.24.

As with letter-sound relationships or letter patterns, rules about the addition of suffixes help to make English spelling predictable. Teaching students these generalisations means that they can apply them to words they may not have encountered before. It would also be expected that incorrect spellings would be more predictable in the way they are incorrect. Teachers can then teach exceptions to or extensions of the generalisations to increase the pool of words that students can spell correctly.
Conclusion
This presentation has focussed on two main areas: letter-sound relationships or letter patterns, and the spelling generalisations relating to the addition of suffixes to words. The ICAS – Spelling Year 3 results show that in these areas, the gap between the most able third and least able third is up to 60 percentage points. This gap is too large and the aim is to reduce it. EAA believes that because English spelling is to a large extent predictable and rules-based, performance gaps in these two areas can be reduced in a targeted way.

Ultimately the aim is to improve student performance in spelling, reading and writing. To do this, both the Australian and New Zealand school systems strongly encourage the teaching of phonics to help students understand and use letter-sound relationships or letter patterns. This helps students ‘chunk’ words so that students are learning groups of words, not individual words.

The same principle applies to the teaching of spelling generalisations relating to the addition of suffixes. If students learn the generalisations, they can apply them even to words they have never seen before. This greatly increases the number of words they can potentially learn to spell correctly.

EAA believes that, if schools use spelling word lists, then phonic knowledge and spelling generalisations should form the basis of these lists. While theme-based word lists would continue to be used to extend vocabulary, word lists specifically targeted at teaching spelling and, by extension, reading, should target letter-sound relationships and/or spelling generalisations.

It is true that there are many other words that are not covered in these two areas that students will need to spell correctly. However, these two areas are amenable to systematic teaching and provide an accessible entry point to helping lower ability students close the gap in spelling.