The flashcard strikes back

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Flashcards have a terrible reputation (McCullough, 1955). But it's undeserved. They are a very direct way of teaching children to read words quickly, especially words that are very frequent in stories, yet are irregular in their spellings (e.g., words like after, because, come, one, put, there, would). Although it is extremely important for beginning and struggling readers to be taught phonemic awareness and some basic phonics skills so they can sound out simple, regular words like cat (Nicholson, 1994, 1997), this is not enough for them to read stories. To read stories, they have to be able to identify high-frequency, irregularly spelled glue words. Flashcards can help them to build knowledge of these high-frequency words, which have to be known if children are to bootstrap themselves into reading of text.

Does reading words faster matter?

Anyone who has listened to unskilled readers stumbling along the page, making lots of mistakes, knows that their comprehension of what they read is likely to be shattered by the amount of cognitive effort that is being diverted to the task of saying words. If these children were able to read quickly and accurately, then the extra mental energy saved by not having to struggle with each word could be applied to comprehending what they read, which is what reading is all about.

Good readers read words quickly and effortlessly. They have automatic word reading skills. Thus, they can devote their full mental energies to comprehension. Flashcards can foster automaticity by helping children to read words accurately and quickly. Critics argue that flashcards only teach children to “bark” at print, and do not contribute to the bottom line of reading, which is comprehension. But recent research suggests the opposite, that teaching children to read words faster can improve reading comprehension dramatically (Tan & Nicholson, 1997).

All sophisticated performances require the ability to orchestrate a variety of skills. Reading is no exception. To combine several skills at once, some of them have to be overlearned. Overlearning applies to everyday skills as well as specialist skills. Bloom (1986) gives the example of walking. Watching a 1-year-old who has just started to walk reminds us that the everyday skills we take for granted have to be practised and overlearned. One-year-olds look where they are walking, adjust their pace, and so on. If they lose concentration, they are likely to fall on their face. Success in sport also requires automaticity of skills.

When you watch a novice roller-blader, wearing all kinds of protective gear, stumbling along, staring intently at the ground, and looking highly unstable, it is obvious that a number of skating sub-skills need to be automatized before that person is going to enjoy the sport. In the same way, once a child can read words effortlessly, his or her mind is then free to concentrate on enjoying the content of what is being read.

When you have achieved automaticity of word reading, the skills of reading are so effortless that they are hard to control. For example, while driving it is very difficult not to read signs and other written material like billboards, and personalized licence plates, which are modern-day flashcards, with phrases like “go-4-it” or single words like miaow or woof on them.

Teaching implications

The instructional ideal is to get unskilled readers to the point where they can recognize many words with ease, so that they can start reading stories independently. Flashcards can help the child achieve this goal. And flashcards are simple to make. All you need is the humble felt pen, scissors, and cardboard. You can even ask the better readers in your class to make some for you, but be sure to check their spelling, or insist that they do a dictionary check. You don’t want them to create a list like LOOOK, TAYBUL, NIFE, SPUNE, and so on. Although invented spellings can be acceptable in children’s own writing, it is unproductive to use them for teaching children to read. It is better that children see the flashcard words as they are actually spelled in published books. Thus, when they come to read the correct spellings, such as LOOK, TABLE, KNIFE, and SPOON in their stories and textbooks, they will not be confused.

You can use flashcards as a scaffolding technique, so that unskilled readers can read and get meaning from stories that are otherwise too difficult. Tan and Nicholson (1997) found that a short session of flashcard training (say, 20 minutes), with 20 difficult words from a 200-word story, set up a below-average reader for a positive reading experience. In their study, they compared three matched groups of unskilled readers, aged from 7 to 10 years. Two of the matched groups received flashcard training, either with one-word flashcards, or sentence flashcards. The third group, a control group, discussed the flashcard words verbally but did not read them. The researchers ensured that all children in the study understood the meanings of the words. There was no point in training children to read words quickly if they did not understand them. Here were the results for flashcard speed and reading comprehension:
• Speed of flashcard reading (words per minute): One-word = 54 wpm, Sentence = 65 wpm, Control = 26 wpm
• Comprehension questions correct: One-word = 74%, Sentence = 80%, Control = 42%
• Passage recall (main ideas and details): One-word = 54%, Sentence = 53%, Control = 30%

Overall, the results showed no significant differences between the two flashcard training groups (one-word versus sentence) in terms of speed of word reading or reading comprehension. Yet the flashcard training groups were significantly better than the control group, both for speed of reading flashcard words, and for reading comprehension. The results showed that although all the children in the study knew what the flashcard words meant, it was only the children who were trained to read words quickly who improved their speed and their comprehension. It is also interesting to note that 100% of the children who received the flashcard training said that they enjoyed their lessons. Flashcards can be fun.

Here is a specific example of how to do the same kind of training they did. Locate a story that is suitable for the children you teach. For example, let's choose When the Moon Was Blue (Cowley, 1989), which is for beginning readers. It contains about 200 words. Select 10% of the words (i.e., 20 words) for training, glue words, and other words you feel will present some difficulty. Put the words on separate flashcards. You can use either single-word flashcards (e.g., raspberry), or sentence flashcards, to provide the child with some context (e.g., “I like raspberry jam on bread”). See Figure 1.

Tan and Nicholson (1997) found no difference between either type of flashcard in terms of effectiveness. It’s a matter of personal preference. Present each of the 20 flashcards, one by one. See if the children can recognize them. If not, pronounce the words for the children. Also check to see if the meaning of each word is understood. If you are using single-word flashcards, write a phrase on the back of the card (e.g., “raspberry jam”). If the children do not know what the word means, turn around the card and show the phrase. Ask the children to use the word in a sentence as well. Be sure that they have a good understanding of the word.

I like to use sentence flashcards. Why? They are more interesting. And I use flashcard sentences that are NOT from the story. Why? It’s more interesting if you do not give the child extra cues as to the meaning of the story. Otherwise, they can easily guess the plot. It’s more fun to keep it a surprise. Also, by training a child with different sentence contexts, you are hoping they will be able to transfer from flashcard contexts to the same words in new contexts. This, after all, is what the training is designed to do. You want the child to be able to read the same word in many sentence contexts.

As you present each flashcard, point to the difficult word, so that the child knows this is the one you are focusing on. For example, the story When the Moon Was Blue contains words like lemonade, raspberry, golden, fantastic, and terrible. Discuss the meanings of the words as you run through the flashcards on the first practice. Also, on the first practice, encourage the child to sound out each word, using the moving-thumb technique of slowly moving your thumb across the word in bits (e.g., “lem-on-a-de”). Another technique, for children who are unable to recognize long words, is to teach them to read just the first three letters (e.g., lem in lemonade). This strategy makes a long word accessible. I find that poor readers especially can often come up with the correct word by using this simple first-three-letters strategy. Both strategies (moving thumb and first-three-letters) have added advantage of signalling that it is OK for the child to use emerging phonics skills to pronounce these words. This is much preferable to reliance on using unhelpful distinctive cues to recognize words (e.g., smudge marks on the flashcards, or the “tail” on the word dog).

Once the flashcards are well learned and can be read quickly, ask the pupil to guess what the story will be about, just from the flashcard words. Children are rarely able to guess the real plot of the story, but it’s a good way of building up risk taking and curiosity about the story. They can come up with some very funny predictions of what the story will be about. If you are working with a single child, it’s a good idea to let the child do his or her own self-training with the flashcards. As the self-training proceeds, the child can put the easy cards to one side and continue working on the difficult cards. Be sure to check that the child is reading each flashcard correctly. At the end of 20 minutes (don’t go overtime), go straight to reading the story. Here is a sample page (Cowley, 1989):

When the moon was blue...
The sea was made of lemonade
And my boat was a raspberry bun.

After the child reads the story aloud to you, ask him or her to answer some questions or else retell the story. Tan and Nicholson (1997) found that reading accuracy, speed, and comprehension were much improved if children received one-word or sentence flashcard training before they read the story.

In another study, Taka (1997) obtained similar results, using flashcards as part of a bingo game, with a small group of adult literacy learners. The bingo card had 25 squares, with each square containing one of the 25 words to be learned. The tutor shuffled the pile of 25 flashcards and started reading them out. Students had to find the called-out word on the bingo card, and
place a button in the right square on the card. When a student completed a row, column, or diagonal of five words, they called out “bingo.” After a quick check by the group to verify that the student had indeed located the correct words, a new game began. The adults improved in word reading accuracy as a result of the bingo game training, and the training had a positive effect on their reading comprehension when they read stories that contained the trained words. It’s surprising how this simple technique of using flashcards can make a difficult-to-read story more accessible to poor readers. Taka (1997) reported that the adult learners really enjoyed the bingo games. They thought of songs or phrases to help them get the meaning of each trained word (e.g., “I found my thrill on blueberry hill,” “I just called to say I love you,” for the words found and called).

To consolidate learning of glue words, I like to use a First Dictionary Card (Fepulea’i, 1993), or something similar, with about 80 high-frequency words on it (e.g., was, come, of), as well as 20 or so interest words (e.g., mother, cousin, grandad). This card is normally used as a spelling resource to help beginners with their story writing, but it can also be used to practise children’s word reading of highly frequent, yet irregularly spelled glue words (see Figure 2).

If you want to make your own First Dictionary Card, a list of the first 100 very frequent words is included in A New Zealand Basic Word List (Elley, Croft, & Cowie, 1997). Another source is The American Heritage Word Frequency Book (Carroll, 1971), which also includes the most frequent 100 words. The First Dictionary Card can be used as a megaflashcard for teaching children to read words faster. This First Dictionary Card is laminated, which enables the student to use a felt pen to circle and mark words during instruction. Spending 10 minutes each day practising words on a dictionary card can be a lot of fun, as the child aims for accuracy and speed of reading. In addition, the

![Figure 2: First Dictionary Card example](image)

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card is immediately available at each pupil's desk as a simple dictionary resource when writing stories.

I also take advantage of the First Dictionary Card to practise spelling accuracy. I pick words randomly from the card, and I have the child write them or spell them aloud. Children enjoy this task, especially once they start to get a good grasp of how to spell these irregular words. As their spellings get closer and closer to the correct spelling, they will get terribly involved in the challenge of the task. I find that the training spills over into their writing. Their spellings become more readable. In my experience, it's important to practice both reading and spelling of these glue words. The different kinds of practice tend to reinforce one another. When a child's spelling starts to improve he or she feels better about writing stories, and the teacher can see the improvement.

Another technique is to use word-family flashcards, such as the Rhyme and Analogy card games (Goswami, 1995). This package has lots of rhyming flashcards like cot, dot, ball, wall, and so on. As children develop mastery over certain rhymes, the cards can be shuffled, so that the families get mixed up. Children can also read them as doubles, to practise reading compounds. The compounds do not have to make sense, since children are just playing with possible words (e.g., frogbat, dogmat). I find that these flashcard sessions are excellent for practising simple phonics skills. Flashcards are useful for training
children to read regularly spelled words as well as the irregular, glue words.

I always follow up flashcard practice with some reading, making sure that the story or article is challenging, but achievable. After reading the story, I may ask the pupil to write a summary of the story. If he or she is a poor reader, I ask for only five sentences. After writing the summary, the child corrects misspellings of words in the summary that are found on their First Dictionary Card. For other misspellings, I ask them to use a slightly more extensive dictionary, such as My Words (Croft, 1989) or Spiral Dictionary (Fepulea'i, 1997), which have about 300 high-frequency words. For better readers, I use Spell-Write (Croft, 1998), which has a list of 3,500 often-used words. If the child is a very poor reader, I make the corrections myself, usually correcting only the worst mistakes, those that I can't read myself. These follow-up activities are very important, because they send the message to the child that skills training has practical application to the realities of reading and writing.

The flashcard of the future

It would be a shame if teachers read this article and thought that it was a call to dig into the broom cupboards and find all those 1950s flashcards. We do not want children to be mindlessly drilled by flashcard junkies. But flashcards can be a useful technique if used properly. Teachers need to be aware of the dangers of drill and skill in turning children off reading altogether. But we also have to acknowledge that many children do not read fluently for their age (Pinnell, Pikulski, Wixson, Campbell, Gough, & Beatty, 1995). Flashcards can promote fluency and in turn help reading comprehension. And they can be a lot of fun.

For a poor reader especially, there is something reassuring about being good at one skill of reading, just as there is a feeling of satisfaction about hitting a consistent golf shot, even if it's only when you are at practice. Flashcards can strike back. They can make a poor reader a better reader. The key to success is to use flashcards sensibly, in small doses, for fun, and with pizzazz!

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