The Phonemic Awareness versus Phonics Debate: Avoiding the Friendly Fire

Many competent readers make errors on complex phonemic awareness tests but are still able to recognise real words and read non-words effortlessly. Does this mean that accurate advanced phonemic awareness isn't necessary for readers to develop their orthographic mapping skills? **Ros Neilson** takes a close look at current controversies surrounding the development of orthographic mapping skills, exploring the disagreements between the experts and making some constructive suggestions for noncontroversial ways that teachers can address phonemic awareness as they support early reading development.

Introduction

Within the group of reading experts who support the evidence that the code-breaking aspects of reading should be taught explicitly and systematically, a surprising amount of internal skirmishing takes place. One of the more recent active battlegrounds has involved particularly vigorous debate on the Developmental Disorders of Language and Literacy (DDOLL) Network, which is an online discussion group that can be joined at *http://www.cogsci.mq.edu.au/ddoll/index.html* . This battle has involved questioning the relevance of phonemic awareness training when systematic phonics teaching is in place.

As a clinician/researcher who has spent many years working on assessment and intervention for phonemic and phonological awareness (Neilson 2003, 2009, 2014a, 2014b, 2016), I have found this debate very stimulating, even though it remains largely unresolved. The skirmish has given me the chance to re-think my understanding of the concepts of phonological and phonemic awareness and the role they play for students who are learning to crack the alphabetic code. In this discussion paper I would like to explore the issues and offer a few very brief suggestions for how clinicians and teachers might, in the midst of all the crossfire, implement strategies to support learners as they learn to recognise and spell words.

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Before I start this discussion paper, however, I would like to invite readers to step into the role of research participants. Please take a moment to carry out four brief phonemic tasks, and think about your responses as you do so. In an authentic phonemic awareness test situation, of course, all stimuli would be presented orally, without the written words in view. Ideally, therefore, if you participate in this exercise you should also discuss the tasks with a colleague or family member who doesn't have the written words in front of them - a nine-year old child who is a good reader would be a quite suitable co-participant.

These are the phonemic awareness tasks:

1 Say *stale*. Now say it again but don't say /t/. (From *Test of Auditory Analysis Skills*, Rosner, 1979)

2 Say *truth*, but don't say /r/. (From *PAST*, Kilpatrick 2019 – see *https://www.thepasttest.com* for a free download of the test)

3 Say *bind* without the /n/ sound. (From a research study by Stuart, 1990)

4 Say *pink* but don't say /k/. (From *Phoneme Deletion Test*, Bruce, 1964)

I will return to a discussion of the tasks below.

Background Terminology

I'll start with a fairly standard definition of three relevant terms.

- *Phonological awareness* is usually defined as an auditory skill that involves paying attention to sounds in the speech stream. Phonological awareness is generally taken to be a metalinguistic affair, involving conscious consideration of the speech stream rather than automatic processing of speech for the purpose of understanding language. In practice, phonological awareness is defined as the ability to isolate, identify and manipulate sounds in spoken words. Phonological awareness is used as an umbrella term, applying to sound segments

of varying sizes, including syllables, onsets and rimes, and phonemes.

- *Phonemic awareness* is traditionally defined as a sub-category of phonological awareness, applying only to awareness of phoneme-sized segments.

- *Orthographic mapping* is a concept that has recently started to crop up frequently in this present debate. The term refers to the process that underlies the acquisition of the ability to recognise words fluently and automatically, without sounding out.

The Battleground: Phonics versus Phonemic Awareness

For several decades phonological awareness has held a very respectable status, alongside phonics, fluency, vocabulary and comprehension, as one of the National Reading Panel's (2000) five essential components of literacy. The role of phonological awareness in literacy development has been subject to only occasional challenges - see for example, Castles & Coltheart (2004), where an argument was made for awareness of phonemes being a result of, rather than a causal factor in, learning to read and write. Despite this kind of challenge, the acceptance of the importance of phonological awareness has not officially changed over the years, as evidenced by the current Australian Curriculum (ACARA 2020), a recent position statement from the International Literacy Association (2020), etc. Phonological awareness has, moreover, recently been given a strong additional endorsement by Dr David Kilpatrick (see Kilpatrick 2015, 2016) in a 2019 speaking tour for Learning Difficulties Australia. Kilpatrick's argument, and the subsequent discussion of his position, is what the skirmishing on the DDOLL Network is about.

Kilpatrick (2015) has introduced a new term into the arena: *advanced phonemic awareness*. Kilpatrick defines advanced phonemic awareness as the ability to carry out complex phoneme manipulation tasks in the auditory modality with fluency and automaticity. He argues that best practice for teaching word reading involves giving students practice in auditory phoneme manipulation in addition to providing a systematic synthetic phonics program. His position is that proficiency in

advanced phonemic awareness as a purely auditory skill is an essential component of reading development because it enables efficient orthographic mapping to occur as students gain reading experience.

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Kilpatrick's position has in effect brought phonemic awareness quite squarely into the firing line from a large group of systematic synthetic phonics proponents – for example, Parker (2019). The combatants on this side of the skirmish argue that there is no point in addressing phonemic awareness as a purely auditory skill. Their position is that phonemic awareness is relevant to reading instruction only to the extent that it is naturally involved in the routine segmentation and blending practice already provided by systematic synthetic phonics teaching, with alphabet letters very much in place. Orthographic mapping skills are seen as the natural outcome of good phonics teaching, combined with practice and reading experience. Indeed, Parker (2019) dismisses many aspects of phonemic awareness as merely 'something of an obsession in top-down Balanced Literacy' (p. 82); other phonics specialists on the DDOLL Network have referred to Kilpatrick's recommendation to focus on advanced phonemic awareness as mere 'auditory acrobatics'.

For convenience, I will be referring to the two sides of the debate as the 'Kilpatrick' side and the 'Phonics-Only' side. For the sake of clarity, I will be characterising the two positions in their most extreme 'purist' terms, and I apologise in advance to those proponents who feel they have been mis-represented.

Within the skirmish there is full consensus that learning to read words efficiently involves orthographic mapping. The disagreement is only about the issue of whether or not advanced phonemic awareness is a necessary prerequisite for efficient orthographic mapping. The Phonics-Only side see mature orthographic mapping as a direct consequence of

reading practice, once phonics has been mastered; the Kilpatrick side sees orthographic mapping as a product of three factors: phonics knowledge, practice, and advanced phonemic awareness.

Is this skirmishing merely friendly fire between reading experts whose agreements are far greater than their disagreements, or is there an issue of theoretical and practical importance to be teased out here?

Debriefing: The Phonemic Awareness Tasks

At this stage I will offer my own comments on the four phonemic awareness tasks I invited readers to participate in at the beginning of this article.

I suspect it will be generally agreed by participants that Item 1, taken from Rosner's *Test of Auditory Analysis Skills* (saying *stale* without the /t/) is the most straightforward of the four tasks. Participants' responses to this item will probably have been faster than their responses to the other items. The answer is simply the word *sale*. It is unlikely that anyone was thinking of the word *sail* as they gave their answers, although this would also have been technically correct (readers could check on whether their co-participants had *sale* or *sail* in mind by asking them to define the word). Importantly, there is a straightforward relationship between the spelling patterns in the stimulus word and the possible response word, and this means that a correct answer could have been arrived at by thinking about the phonemes, or by visualising the letters, or by doing both. The item can be described as 'orthographically transparent.'

- For the record, most of the phoneme-level items in the SPAT-R (Neilson, 2003) and FELA (Neilson, 2016) fall into the orthographically transparent category.

Items 2, 3 and 4 are all more problematic, because for all of them the spelling of the word is not conducive to solving the phonemic awareness task.

Item 2, where /r/ is deleted from *truth*, is taken from Kilpatrick's *PAST* assessment tool. Many participants may do a slight double take as they think about the item, but will eventually come up with the word *tooth* as the correct answer; their hesitation may have involved consideration of the spelling changes

involved, and musing about the possible pronunciation of the non-word *tuth*.

- It is important to note that all the phoneme level items in all versions of the *PAST* follow this pattern; they all fall into a category that Kilpatrick terms 'orthographically confusing'. I will come back to this feature of the *PAST* test below.

Item 3, saying *bind* without the /n/, is taken from a research study published by Stuart (1990). It is an interesting item. Is the answer *bid* or *bide*? If you think about the letters, using an orthographic strategy, you will answer *bid*, but if you think about the sounds, using a phonological strategy, you will answer *bide*. As part of a follow-up study, Stuart (1990) administered a set of phoneme deletion items to a group of nine-year old children who varied in reading/spelling ability. In one of her experimental conditions all the possible answers were real words, but for some of the items an orthographic strategy would yield a different answer from a phonological strategy – as in *bind* without the /n/. This experimental manipulation provided a direct window into which strategy the child was using. Stuart (1990) reported that more competent young reader/spellers had a very strong tendency to produce answers revealing an orthographic strategy. Stuart (1990) documented the fact that many of the strong readers could switch strategies when they were encouraged to attend only to the sounds and not visualise the letters – but they still volunteered the comment that they found it easier to do it 'the spelling way'. Those weaker readers who could attempt the task had a strong preference for using a phonological strategy. They tended to take longer to produce their responses, often orally segmenting and blending the phonemes rather laboriously as they did so. Overall, the tendency not to visualise the spellings of words was a clear hallmark of weaker readers and spellers. One of Stuart's comments in the Discussion section of the published article is very thought-provoking: "Poor reader/spellers continued to develop phonological skills as they learnt to read … but this seemed to happen in isolation from the reading process and without reciprocal influence from experience of orthography" (p.314).

- There is one item in each of the two forms of the *SPAT-R* (Neilson 2003) that falls into the same category as Stuart's (1990) experimental list:

cold without the /l/ (*SPAT-R* Form A) and *gold* without the /l/ (*SPAT-R* Form B). These items yield either *cod* or *code*, and *god* or *goad*, depending on whether an orthographic or a phonological strategy was used. (I do concede that the pronunciation of the vowel and the /l/ in *cold* and *gold* varies in some Australian accents, which makes these particular examples a little difficult to interpret.) In the *SPAT-R* scoring system, item analysis data suggested that it was necessary to accept both the orthographic response and the phonological response as correct, because although the phonological response was technically more 'correct' in phonetic terms, the orthographic response had a much higher positive correlation with the Total Score. My own clinical experience in the years following the publication of the *SPAT-R* has added further support to Stuart's finding: there is a consistent strong orthographic strategy preference in more competent readers (Neilson, 2009) and a phonological strategy preference in weaker readers, with the very weakest readers unable to attempt the item at all.

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I confess that I have included Bruce's (1964) item (saying *pink* without the /k/) as a nostalgia piece. For those readers who have not had explicit phonetics instruction, the orthographic problem in this item is the most difficult to understand. When the /k/ is deleted from *pink*, the phonemes remaining are pronounced *ping*, because a nasal phoneme before the letter K is spelled with the letter N, but is pronounced as /ng/. The graphemes work against the most common assumptions of letter-sound correspondences. Bruce (1964) himself actually supplied the correct answer as *pin*, thereby demonstrating an orthographic strategy for solving the phonemic awareness task. Many early phonemic awareness tests from the 1970s, as well as many of the exercises one still tends to see in school lesson plans, include examples of the same kind of confusion between phonemes

and graphemes – for example, stating that if you take the /n/ out of *monkey* you will get the word *money*, and advising students they should listen more carefully and/or speak more clearly if they can't hear the long *O* in crocodile.

Phonemic awareness tasks and the dominance of orthographic knowledge

My reason for inviting readers to participate in the phonemic awareness tasks at the beginning of this discussion is to bring to the foreground a phenomenon that I think has been under-explored in discussions about the role of phonemic awareness in phonics teaching, and that is directly relevant to the debate about whether phonemic awareness practice should be carried out without letters. It represents one of the most useful of the many insights into literacy provided by Linnea Ehri (see Ehri & Wilce, 1980) and replicated repeatedly by other researchers (e.g. Stuart, 1990; Tunmer & Nesdale 1982, 1985). Put simply, literate people tend to rely on their knowledge of word spellings when they are asked to think about sounds in words. If people can visualise the spelling of a stimulus item, they automatically do so - even if the task explicitly relates to phonemes. To expect people not to visualise letters when they are thinking about sounds is a bit like expecting them not to be affected by what is commonly known as the Stroop Effect (that is, the difficulty you experience when you are asked, for example, to name the colour of the ink when the word RED is printed in blue.) It is very difficult, once you have learned to read and spell, to inhibit your orthographic knowledge.

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The effect of orthographic knowledge on phonological awareness tests has been shown in tasks involving syllables and rime units as well as in tasks that involve phoneme manipulations – it takes a fraction longer, for example, to decide whether *chair* and *bear* rhyme than to decide

whether *chair* and *hair* rhyme. As was shown by the phonemic awareness tasks at the beginning of this discussion, reliance on visual strategies is not highlighted in orthographically transparent phonemic awareness tasks, where there is no conflict between the letters and the phonological segments that are to be manipulated. But when the relevant grapheme-phoneme relationships aren't immediately helpful in solving the task, the normal pervasiveness of orthographic strategies in competent readers is quite clear.

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Ehri offers a common-sense account of why awareness of orthography tends to over-ride phonology, at least in more complex tests of phoneme manipulation: it's easier to do the tasks that way. She points out that phonemes are abstract, transient and difficult to hold in auditory memory, while letters have over-learned names and are more concrete than phonemes. Sequences of letters, even if they are only vaguely visualised, have a spatial quality that supports mental rehearsal and manipulation. Ehri argues, furthermore, that orthographic knowledge becomes amalgamated with other aspects of word knowledge – meaning, sound, and pronunciation – in our mental lexicon, and all these aspects of lexical representations are evoked simultaneously when a word is seen or heard (Ehri 1989; Ehri 1995; Ehri 2000; Ehri 2005; Ehri 2014; Ehri & McCormick, 1998; Ehri & Snowling 2014; Ehri & Wilce 1980).

I have often wondered whether the dominating effect of mental orthographic images may be a factor underlying the frequently reported research finding that many teachers have poor phonemic awareness. If teachers are asked to count the phonemes in *box* or identify the second phoneme in *queen*, they tend to give answers that reveal confusion between spelling and sounds (e.g. Arrow et al. 2015; Fielding-Barnsley & Purdie,

2005; Moats, 2000; Piasta et al, 2009). This finding obviously does not augur well for methodical systematic phonics teaching. I have never been convinced, however, that the finding necessarily demonstrates generally weak phonemic awareness – it might simply reflect naivete regarding the strategies expected on phonemic awareness tasks (Washburn et al., 2011). Teachers might indeed have the ability to attend to phonemes – and be less confused when they are teaching phonics – if they were systematically directed away from attending to their established mental orthographic images of the words and re-directed towards attending to their own phonological representations as they thought about sounds.

Kilpatrick's *PAST*: Interpretation and relevance to classroom practice

At this stage I will return to the Kilpatrick versus Phonics-Only skirmish, and I will try to substantiate my suggestion that it is possible – indeed desirable – to avoid the friendly fire.

I find it useful to begin my argument with reference to Kilpatrick's *PAST* assessment tool, which takes a rather challenging slant on the issue of the use of orthographic strategies on phonemic awareness tasks.

Kilpatrick (2015) characterises attending to orthography on phonemic awareness tasks as 'cheating' (p. 158), and he cautions that use of a visual strategy will actually confound phonemic awareness tests. Kilpatrick's stated assumption is that students may tend to visualise spellings *because they do not have adequate phonemic awareness*. He argues that there are more steps involved in visualising letters to carry out the tasks than there are in doing the tasks by thinking just about the phonemes, and therefore orthographic responding will tend to be slower than phonological responding.

At first glance, this position is in rather striking contrast with Ehri's observations about orthographic strategies being characteristic of mature readers, and with Stuart's (1990) observations that the orthographic responding shown by her strong reader/spellers tended to be instantaneous, with phonological strategies being more laborious. Kilpatrick's position is probably also in contrast with what readers would

have experienced as they carried out the tasks I set at the beginning of this article: it is easy to do phonemic awareness tasks when orthography is helpful, and it only becomes difficult to do the tasks when you have to inhibit the orthographic knowledge that is interfering. Proponents on the Phonics-Only side might well argue that interference of orthography on phonemic awareness tasks may actually be an encouraging sign that orthographical knowledge is well established, rather than an indication of poor phonemic awareness.

Given Kilpatrick's initial premise that orthography can confound phonemic awareness testing, however, he has gone to impressive lengths to exclude the use of orthographic strategies from the *PAST*. All the phoneme-level items on the test are orthographically inconsistent, such as the *truth/tooth* example mentioned above, or the deletion of /d/ from *word* to produce *were*. (I can't resist commenting that it must have taken very dedicated manpower to come up with all the orthographically inconsistent stimulus and response words used in all the versions of the *PAST* – much credit is due to the research assistants involved.) So, when responding to test items on the *PAST*, those students who might naturally tend to visualise the spelling of words would be forced, if possible, into using a phonological strategy. Feedback on errors is built into the test, which means that strategy switching, as Stuart (1990) documented, is quite likely to happen with the stronger students.

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Another critical feature of the *PAST* is that the scoring includes a timing factor: any 'instantaneous' response (defined as having a latency of less than two seconds) is awarded two points, while slower correct responses are given only one point. Kilpatrick's rationale for this is that "there is reason to believe that the faster responses require greater phonemic awareness proficiency" (Kilpatrick & McGuinness, 2015, cited in

Kilpatrick, 2015, p. 159.)

I am not questioning Kilpatrick's claim that, as a screening test, the *PAST* would be efficient and reliable in sorting out stronger from weaker readers. I am also not questioning one aspect of its validity - that is, children who can carry out the manipulation tasks quickly, scoring close to ceiling on the test, indeed do have strong phonemic awareness. I am, however, concerned about the test's implications when students do not do well, and about the teaching/support recommendations that might follow.

It is useful to consider two ways that low scores can be achieved on the *PAST*: inaccurate responses and slow responses. With slow responses, students may actually get most of the items correct but achieve only approximately half marks on the Total Score because they take longer than two seconds to produce the answers, scoring one point instead of two for each item. I would imagine that these error patterns actually overlap to a fair degree in individual children, but it may be useful to discuss the two kinds of low scores, and consider their teaching implications, separately.

a Low scoring on the *PAST*: Inaccurate responses or failure to respond.

If students simply cannot carry out the phoneme manipulation tasks accurately, there may be indirect reasons for the problem. Students may, for example, be losing attention or failing to understand the instructions, and this could suggest that further assessment of their attention skills and/or listening comprehension is indicated. These indirect factors are common to all assessment tasks that involve verbal instructions. There may also, of course, be a more direct reason for students giving incorrect responses or failing to respond on the *PAST*: their phonemic awareness may not yet support the segmentation and identification of all the phonemes in the stimulus words.

This 'diagnosis' of weak phonemic awareness in students who make accuracy errors on the *PAST* is probably most usefully confirmed in additional tasks that require children to attempt to spell nonwords. Nonwords rather than real words have to be used because correctly spelled real words may reflect students' rote-learned spelling skills rather than their awareness of underlying grapheme-phoneme correspondences. Nonword spelling is a task that can be administered as soon as students have a reasonable grasp

of alphabet letters. Note that there is no need, in this case, to measure their speed of responding. Careful analysis of their successes and errors will clearly highlight which of the phonemes in the spoken nonwords they identify clearly enough to make an effort to represent with letters, and which phonemes are omitted or misidentified (see Neilson, 2003, 2014a, 2016).

What teaching recommendations would follow from this diagnosis of poor phonemic awareness? Purists on the Kilpatrick side of the skirmish would probably reiterate that phonemic awareness is something that can be done with the eyes closed, and support for these students' phonemic awareness should therefore be provided with no reference to alphabet letters. Purists on the Phonics-Only side would assume that phonemic awareness would develop naturally with more phonics teaching and practice – an assumption that is never tested if phonemic awareness is never assessed within the phonics classroom. I would argue that there are possible flaws in the logic on both sides of the skirmish, related to the fact that neither side explicitly considers integrating visual and phonological information.

Phonemic awareness has to be a very explicit part of a systematic phonics program if this kind of supportive teaching strategy is to be implemented, and this very probably requires extra teacher training

The problem with the Kilpatrick side is that if lack of detailed awareness of phonemes in the speech stream is indeed a problem, it is likely that attention to letters in words will be a useful strategy in supporting the clarification of the speech stream (cf. Boyer & Ehri, 2011; Stuart, 1990). The extra cue afforded by the presence of letters in words is very helpful indeed in exploring subtle or ambiguous aspects of phonemes – for example, in realising that the /t/ phoneme changes in quality when it is followed by /r/, as in the word *train*, or in finding and identifying the subtle pause and articulatory movement that creates the /k/ phoneme in the word *act*.

The problem with the Phonics-Only position, I suggest, is that subtle phonological cues will not necessarily

be accessible to those students whose phonological systems are not robust, and who end up needing extra support. Successful systematic phonics teachers must have the skills to help students to attend carefully to phonology, giving due attention to articulatory as well as auditory cues. Phonemic awareness has to be a very explicit part of a systematic phonics program if this kind of supportive teaching strategy is to be implemented, and this very probably requires extra teacher training.

b Low Scoring on the *PAST*: Slow Responding.

The second kind of poor scorers on the *PAST* are students who respond accurately but slowly. They do indeed have the ability to segment, identify and manipulate all the phonemes in the words they are trying to manipulate. Their auditory manipulation skills, however, are not yet 'automatic' – with automaticity measured in terms of speed of execution. Kilpatrick rightly points out that lack of automaticity may be an unrecognised problem if speed of responding on phonemic awareness tasks is not assessed.

The diagnostic implications of this pattern of poor scoring on the *PAST*, seen from proponents on both sides of the skirmish, are similar to the recommendations for inaccurate responders. That is, purists on the Kilpatrick side of the debate would, I think, offer the recommendation that the students engage in more phoneme manipulation practice, avoiding the use of orthographic strategies, in order to develop advanced phonemic awareness. The Phonics-Only side of the debate, on the other hand, would probably simply recommend more phonics practice. Once again, I would argue that there may be gaps in the logic on both sides – and once again, the problem is that neither side explicitly considers integrating orthographic and phonological information.

As was the case with inaccurate responding on the *PAST*, of course, there may be factors involved in slow responding on the *PAST* that that are not directly related to phonemic awareness. I suggest that difficulties with Rapid Automatic Naming and Working Memory are the most likely candidates here – but in this discussion I won't even start to open the can of worms related to programs that aim to address underlying skills rather than working directly on literacy skills.

At the chalkface, however, the slow responders raise another issue that has

in effect been removed from the picture by Kilpatrick's decision to exclude orthographic strategies from the *PAST*. My concern, basically, is that there may be another important difference between the fast responders and slow responders on the *PAST* – a difference that goes beyond their speed of carrying out advanced phonemic awareness tasks. My hypothesis is that students who are slow accurate responders on the auditory phonemic awareness tasks might also be relatively less competent than fast responders at generating mental orthographic images of words and sub-lexical units – a skill that seems to be a hallmark of competence with the alphabetic code (Stuart, 1990). The slow responders are possibly students who wouldn't have been able to (in Kilpatrick's terms) 'cheat' by using orthographic strategies, even if the test had allowed them to.

If weak, inaccurate or fuzzy mental orthographic images is an issue, this might be explored further in other forms of assessment. The slow responders might possibly also be very poor spellers, with spelling errors that are largely phonetically accurate. They may be students who try to learn spelling lists by rote or by using laborious mnemonics, and who end up grasping at fragmentary bits of orthographic knowledge (e.g. "I know there is an N in *environment* somewhere, but I can't remember where to put it.") They may be students who keep confusing similar-looking words such as *for* and *from*, *though* and *thought*, *on* and *no*, etc. It seems very likely that their learning to read has not involved competent

orthographic mapping.

I am suggesting that no matter how well these students learned to manipulate phonemes quickly in the auditory modality, they still might not bring this skill to the task of orthographic mapping. Their phonemic awareness might continue to be dissociated from their spelling knowledge.

Avoiding the crossfire: An explicit strategy for integrating phonological and orthographic learning

I would like at this stage to propose a white flag in the form of a clinical teaching tool I have been using for many years – a tool that has not been researched in any control trials, but which I have found to be useful in mainstream early literacy classrooms as well as in Tier 2 and 3 remedial clinics. The tool is a simple learning activity designed to show students how to integrate visual and auditory information – a skill that I have argued is needed to support students who encounter a range of barriers to successful orthographic mapping.

I refer to the activity as *'tracking words'*. I like to develop a shared understanding of the concept from the very earliest point of literacy teaching. The activity is reinforced by a visual image, shown in Figure 1, which I print

out and distribute freely to students, families and teachers. There are four components involved in tracking words: eyes, pointing finger, mouth and ears.

The Tracking Words activity involves starting with a written word or non-word whose pronunciation is known, clearly displayed in view. The student is invited to look at the written word, run a finger or pen under the letters in the word, say it slowly (not segmenting the phonemes), and listen to the phonemes in each syllable as the phonemes are pronounced. The student's task is to make sure that he or she is pointing under the relevant letter/s as the phoneme occurs in the syllable. The teacher's task is to check that the student is relating the graphemes and the phonemes, mapping them accurately in both time and space.

… the integration of phonological and orthographic information is the very essence of the concept of orthographic mapping …

I start with single syllable words. Words with known regular grapheme-phoneme correspondences are of course ideal at first, but I encourage the use of tracking for all words, even the irregular words on sight word and spelling lists. When grapheme-phoneme surprises occur – such as the letters *AI* in the middle of the word *said* – these are to be noted and discussed.

Once the student is competent at tracking phonemes in monosyllabic words, the tracking activity also sets up the opportunity for chunking as the student runs a finger under polysyllabic words, pausing between syllables. This allows teacher and student to comment on spelling features such as schwa vowels, and to notice and discuss morphemes. At this point the focus on one-to-one grapheme-phoneme relationships can be backgrounded, as students attend to how whole syllables are pronounced and spelled, and notice context-dependent spelling patterns as they say the words. Once again, one of the teacher's tasks is to monitor the accuracy with which the student is mapping the word.

Readers of this discussion paper are free to experiment with my Tracking Words image and related activities for themselves. I would be happy to be
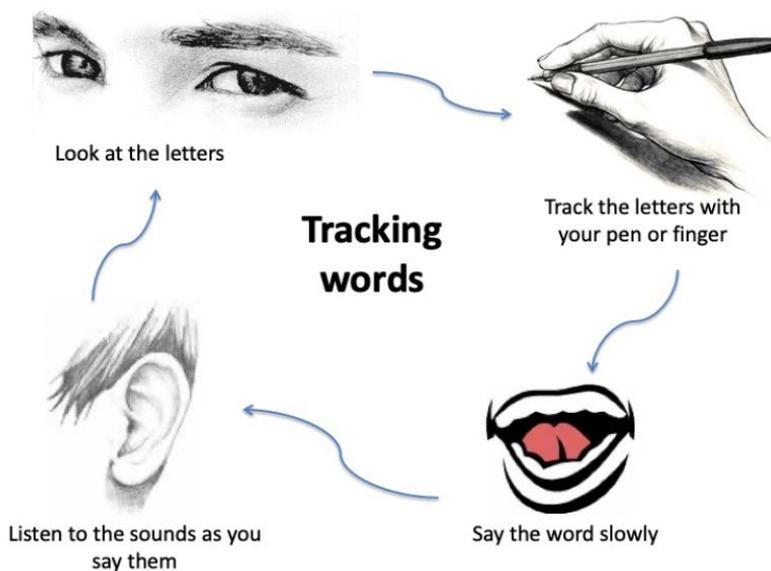

Look at the letters

Track the letters with your pen or finger

Tracking words

Listen to the sounds as you say them

Say the word slowly

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Figure 1: Tracking words

contacted if anyone wants clarification of my clinical suggestions (see *www. roslynneilson.com.au*).

Conclusion

Amongst all the reading experts in this skirmish, the concept of explicit direct instruction is held in high regard. I have tried to argue that the integration of phonological and orthographic information is the very essence of the concept of orthographic mapping, and I have also suggested that there may be gaps in some of the conventional recommendations on both sides of the skirmish with respect to how to teach this integration explicitly. If both sides agreed that it might be useful to continue to research ways to support mainstream classroom students and students with reading difficulties to bring together their phonological and orthographic skills, this goal might end up being a useful component of the terms of a ceasefire.

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