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What should teachers know about spelling?

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Abstract

This article describes essential teacher knowledge for teaching spelling, along with a description of how this knowledge may convert to effective classroom pedagogy. The article is the result of a study of 14 beginning teachers who were participants in a broader study of their experience of teaching literacy in the first year in the classroom after graduation. The broad aim of the study was to determine if there were changes that could be made to their teacher preparation that would better prepare them to teach literacy in their first year teaching in the classroom. Teaching spelling was quickly identified as an area of literacy in which they were struggling. They were nervous about their own spelling skills but also had a limited pedagogy for spelling. The article describes the spelling knowledge they needed to have, with reference to the challenges they faced and presents the changes that were subsequently made to the teacher preparation of future teachers at the university from which they graduated.

Key words: teacher knowledge, teacher education, spelling, phonics, writing, primary

Introduction

> *"Honestly my spelling is not great. I don't want kids to feel about spelling like I do. I don't fully understand the system. Do you know what I mean? That's why I find this so challenging and that's why I want to get on top of it".*

Marg was one of the 14 teachers participating in a study of the first year experience of teaching in primary schools in an urban jurisdiction in Australia. The study was designed to inform my own role as a teacher educator, more specifically a literacy teacher educator, at an Australian university. The broad aim of the study was to determine if there were changes that could be made in their teacher preparation that would better prepare them to teach literacy in their first year teaching in the classroom. Teaching spelling was quickly identified as an area of literacy in which they were struggling. They were nervous about their own spelling skills, and they had limited spelling knowledge. Both these factors limited their pedagogies for spelling. The literature suggests their experiences were not unique, with others finding a lack of linguistic content knowledge in beginning teachers (Alderson and Hudson, 2013; Helfrich and Bean, 2011; Washburn et al., 2011; Wong et al., 2012). The consequences of a lack of spelling knowledge can be serious, with Shulman (1986) indicating that lack of content knowledge results in narrowed and regressionist pedagogies as teachers resort to replicating own past experiences with instruction or simply mimicking the practices of others (Hodson et al., 2012; Wold et al., 2011).

Having identified this gap in their teacher preparation, I investigated the spelling knowledge pre-service teachers should have and pedagogical approaches they could take into the classroom. This article begins with a description of the spelling knowledge all teachers should have. This is followed by a description of the study of beginning teachers whose first year experiences of teaching spelling have prompted this article. These are experiences that may resound with other teachers, both newly qualified and experienced, and help to contextualise the article's call for increased teacher knowledge about spelling. The article concludes with an account of the changes made to the teacher preparation of future teachers in my institution to build graduates' capacity to teach spelling effectively, with examples of the spelling programmes they now prepare for their classroom teaching experiences.

What the literature tells us about spelling

A review of the literature in the field reveals the following as fundamental understandings teachers should have about spelling:

- Spelling is a learned skill, not an innate ability, and therefore, it can and should be taught. English spelling is systematic, contrary to popular perception, and therefore, it can be taught.
- Spelling is a linguistic skill that develops through, and for, interactions with others. It is an integral component of reading and writing, allowing us to make meaning from, and with, texts.

Spelling is a learned skill

The brain is not ready wired for spelling; each individual brain must learn to spell. Yet many approaches to spelling instruction reveal an underlying assumption that there is an innateness about a person's ability to spell. This assumption is evident in the practices of teachers operating from diverse theoretical bases.

At their extreme, holistic pedagogies propose children learn to spell if surrounded by print, that extensive exposure is sufficient to absorb spelling. Undoubtedly, exposure to print, reading books and being surrounded by meaningful print are requisite conditions for learning to spell, but immersion, in and of itself, is insufficient. At another extreme, behaviourist pedagogies promote repetition and rote memorisation as the key to spelling. The focus here is shifted from words as representations of meanings and spelling as the tool by which those meanings are made communicable to others. Instead, spelling becomes disconnected from meaning and, in essence, a means unto its own end, where sequences of letters are learned and repeated upon demand, often in quizzes and tests where the words are usually devoid of context or any meaningful use. Both these extremes share an inclination to understand spelling purely as a visual skill (Johnston, 2001; Templeton and Morris, 1999). Similarly, strategies such as "look cover write check" and activities where words are written repeatedly in different fonts or in different colours reflect a belief that spelling is predominantly a visual skill and that English spelling is somewhat chaotic and illogical (Kessler and Treiman, 2003; Treiman and Bourassa, 2000) and can only be learned through memorisation. This position allows teachers to abandon a notion of teaching spelling and essentially leave the task of learning to spell up to parents and children through the distribution of take home spelling lists. The 'learnability' of spelling is a key message for teachers, with multiple studies reporting the importance of explicit teacher instruction in the development of effective spellers (Bailet, 2004; Henry, 1989; O'Sullivan, 2000).

Spelling as a linguistic system

Fundamental to an understanding of spelling as a 'teachable' skill is the knowledge that English spelling "is not pathological, it is based on principles and does a reasonably good job of applying them" (Kessler and Treiman, 2003, p. 271). Spelling is a linguistic skill (Arndt and Foorman, 2010; Masterson and Apel, 2010) that reflects the complex history of the English language. Beginning as a Germanic language, English has accepted words and grammatical structures from many languages – from the languages of those who conquered England as well as the languages of those England conquered. It has been equally generous in adopting the spelling patterns from those other languages, rather than applying the original Germanic sound/symbol relationships. The result is an alphabetic orthography but not a phonetically regular language. This means that you cannot accurately predict how to pronounce most English words simply by looking at the spelling, nor can you spell most words accurately just through hearing them pronounced. English is the most irregular of the alphabetic languages (Devonshire and Fluck, 2010) with a phonological consistency of only 12 percent. By Year 5 (10–11-year-olds), children encounter more than 27 new words each day that cannot be decoded using phonological strategies (Mann and Singson, 2003).

English is linguistically categorised as a morphophonemic language, that is words are constructed through representations of both their sounds and meaning. The history and meaning of words are important aids to spelling. An effective speller draws upon the entire rich linguistic tapestry of a word to spell it correctly. The threads of this tapestry can be identified as phonological knowledge (including phonemic awareness), orthographic knowledge, morphological knowledge (which includes semantic knowledge), etymological knowledge and visual knowledge (Apel et al., 2004a, b; Henry, 1989; Masterson and Apel, 2010).

Phonological knowledge. The majority of spelling programmes in schools focus on one particular kind of linguistic knowledge, phonological knowledge (Devonshire and Fluck, 2010; Johnston, 2001). These programmes are based on the understanding that English is a phonetic language, one where sounds map neatly and predictably onto sounds, which it is not. The phonology of English is the most complex and challenging of the knowledge 'sets' for learning to spell, yet it forms the bulk of most spelling programmes for young learners. Programmes for low-achieving spellers also focus primarily on building phonological skills. Henry (1989, p. 135) concludes low performers in spelling are not able "to figure out the underlying structure" of words, and they are heavily reliant on the belief that symbols have consistently matching sounds and lack any other strategies for tackling words. As a consequence, with only phonological skills, these students are very constrained in their efforts to spell words (Henry, 1989). Often, they have had little other teaching in spelling other than basal phonological skills. They are driven by what Templeton and Morris (1999, p. 105) call 'an alphabetic expectation'. Apel et al. (2004a) claim that a preoccupation in the research on the phonological component of spelling has resulted in this preoccupation with the teaching of phonics. Hilte and Reitsma (2011, p. 334) further suggest that exclusive attention to phonological knowledge in the classroom may actually "loosen the connection with meaning" for the children, resulting in learners who lack "flexible, strategic and efficient problem-solving repertoires" (Gerber, 1985, p. 40). As Devonshire and Fluck observe, "if children are only taught phonics for the first two years of formal schooling they will use it as a favoured strategy … even when they may be capable of using more appropriate strategies" (Devonshire and Fluck, 2010, p. 370). It is thus important for teachers to understand that phonological skills are only one part of the spelling knowledge repertoire. Additionally, general misapprehensions of the phonetics of English (see Burton, 2011, for an account of phonetic

knowledge for teaching phonics) result in teachers being unable to make accurate use of phonologically based instructional programmes. This lack of nuanced knowledge can result in inaccurate teaching, as recounted later in this article in the account of beginning teachers' practices.

Orthographic knowledge. Alongside phonological knowledge, students must have orthographic knowledge, that is, understanding which letter sequences are both possible and plausible in English. Given that English does not have a consistent match between phonemes and graphemes, deciding which graphemes to use is an important part of orthographic knowledge. Orthographic knowledge also includes knowing the generalised graphemic conventions, for example consonants generally are not doubled after long vowel sounds. Orthography is an important part of learning to spell; it helps reduce the numerous possibilities of spelling a word when relying on phonological knowledge alone and substantially reduces the margin for error. To teach orthographic knowledge, teachers themselves must be cognisant of the multiple possible graphemic representations of phonemes (how might this sound look when it is written?) as well as why there are multiple possibilities (linked to etymological knowledge about English – see later). In addition, teachers must know that spelling is an orthographical representation of oral language, and this helps explain many of the apparent inconsistencies in phoneme/grapheme matches. All English accents use the same orthography, so our words sound different when we speak, but we use the same spellings when we write. This further complicates the teaching of English phonology as commercial phonics programmes cannot account for regional, national and international differences in accents.

Morphological knowledge. Morphological knowledge involves understanding the morphemes in words. Morphemes are the parts of the word that carry meaning, for example bird/s where 's' marks the plural. Roots, base words, suffixes and prefixes are all morphemes, and when added to a root word (morpheme), they can create new meaning, for example un - happy, or change the word class, for example teach - er. Compound words are also built from morphemes. If you understand that breakfast means to break a fast after a night of not eating, you are more likely to spell it 'breakfast' than 'brekfast'. Understanding how words can be built this way not only improves spelling but also increases children's vocabulary, both their comprehension of new words when reading and the composition of new and appropriate words when writing (Biemiller, 2003). Very young children demonstrate an understanding of morphology in words (Mann and Singson, 2003). For example, many beginning writers will correctly write 'dogs' rather than 'dogz', showing an awareness of morphology with the use of the plural marker 's' rather than opting for the phonologically correct 'z'. Unlike English phonemes, morphemes are quite regular in English, remaining consistent in graphology even when phonology changes, for example jump*ed* (t), lov*ed* (d), hat*ed* (id), or cat**s** (s) and dog**s** (z). When we understand morphemes in words, then words considered to have irregular spelling (by which we usually mean you cannot sound them out) we find have very regular morphemic constructions. For example, magician is magic + ian where 'ian' is the suffix that changes the object (magic) into a person (magician) (Nunes et al., 2006). Other examples of this same morphemic construction include 'electrician', 'physician' and 'technician'. As such, morphological knowledge often steps in when phonological knowledge misleads.

Nunes et al. (2006) conclude morphological knowledge is the least understood and least exploited spelling knowledge. Children are not innately aware of most morphemes in words, indeed most adults are not (Adams and Henry, 1997; Mann and Singson, 2003; Washburn et al., 2011) and so must be taught morphological knowledge in order to utilise it when spelling. Carlisle (2003) further observes "leaving morphological analysis to be discovered by students on their own means that those who are not inherently linguistically savvy are likely to be left behind by their peers in the development of vocabulary, word reading and comprehension and spelling" (Carlisle, 2003, p. 312).

Etymological knowledge. English is a polyglot language (Henry, 1989), one that has drawn its spelling patterns from many other languages. Understanding word origin provides 'problem-solving clues' to phonological, orthographic and morphological components of words (Henry, 1989). Relationships between sound and symbol, which initially seem obscure, are often situated in the origin of the word.

Visual knowledge. The look of a word is an important contributive knowledge to successful spelling. Apel et al. (2004a, b, p. 646) describe this visual knowledge as building a repertoire of "mental orthographic images" that makes spelling more fluent and automated. As such, multiple exposures to words in meaningful contexts are crucial to learning to spell. However, the visual alone is an inefficient strategy for learning spelling as it tasks the learner with committing each individual word to a memory bank, and there are many words that do not provide a memorable or distinctive visual pattern.

Stage versus repertoire approaches

There are spelling programmes that focus on multiple linguistic resources for spelling as outlined above, for example the popular Words Their Way programme

(Bear et al., 2000). However, these programmes posit the linguistic components of spelling as hierarchical, that is, they are conceived of as developmental stages that children move through, beginning with phonological knowledge, then orthographical, morphological and finally etymological (Boynton Hauerwas and Walker, 2004).

An alternative position claims that the acquisition of these skills is not hierarchical but rather they occur concurrently. This is a 'repertoire' theory of spelling acquisition. Kessler and Treiman (2003) observe that all children of all ages make use of multiple sources of linguistic knowledge when attempting to spell words, noting: "The processing is not done in a serial way, as in a flowchart. Rather the various pieces of information are processed in parallel" (Kessler and Treiman, 2003, p. 275). This reflects the findings in O'Sullivan's longitudinal study of student spelling development in three London primary schools (O'Sullivan, 2000). Her study found that very young children drew upon different types of knowledge as they spelled their words. Hilte and Reitsma (2011, p 334) concur and conclude that a concurrent activation of all the linguistic resources provides "a stable and coherent word identity". A strong word identity is likely to encourage 'generalisation' where skills learned in one context, or one word, are able to be applied to another (Kohnen et al., 2010).

Study description

The study referenced in this article used qualitative approaches to understand the challenges faced by beginning teachers as they make the transition from pre-service teacher to classroom teacher, focusing particularly on their literacy teaching in the first year of teaching (Adoniou, 2012). The purpose of the study was to inform both teacher preparation and early career support strategies. Spelling was an area that emerged clearly as a component of literacy teaching they struggled with.

Fourteen beginning teachers were observed in their first 16 months of teaching. All were graduates from the same teacher education programme, a Bachelor of Education. The participants were self-selected rather than chosen to represent a particular group of beginning teachers, and all were employed in government primary schools in the local jurisdiction. Thus, findings from this study must be seen in the light of that particular employment context and the preparation they received at one particular university. There were three men and 11 women, and they taught across a range of grades from pre-school (3–4-year-olds) to Year 6 (11–12-year-olds).

Utilising the theoretical perspective that 'understanding' is achieved through interactions with those experiencing the phenomena being studied (Vygotsky, 1978), a methodology was required for this study that would generate those interactions and capture the broad range of possible influences upon the beginning teacher. To achieve this, a variety of data collection methods were used (Gall et al., 2005). Observations, field notes, interviews and surveys were employed, and site documents were reviewed, with the different methods giving different lenses through which to observe the same phenomena. The teachers were observed in their literacy teaching and interviewed eight times during their first year of teaching and once more in their first term of their second year of teaching. These interviews were supplemented with two types of researcher field notes, descriptive and reflective, which were collected throughout the study. The interviews were semi-structured and probed the literacy teaching that had been observed. This allowed the researcher to delve beyond the observed action of the teacher and hear the rationalisation of the practices observed. Typical prompts included "Tell me about the literacy lesson I observed today", "What has been working in your literacy teaching and what hasn't?" and "Do you know who the students are who struggle with literacy? Tell me about them". The participants also completed three anonymous online surveys through the course of the study. The survey questions mirrored questions given in the face-to-face interviews to determine if, in anonymity, the group reflected similar attitudes and feelings as they did as identified individuals. The methods chosen resulted in an abundance of raw data to be sifted and analysed. A thematic analysis of the data was undertaken to identify recurrent issues and, thus, identify themes or clusters of linked ideas conveying similar meanings (Cresswell, 2003; Holliday, 2002). From this process, three broad categories or descriptive codes (Punch, 2009) emerged under which to do an initial distribution of the data:

- teacher belief and identity;
- knowledge about literacy teaching; and
- 'doing' literacy.

It is the data that emerged in the second and third themes, knowledge about literacy teaching and 'doing' literacy, that have informed this article.

Findings

Whilst by no means the only area of literacy teaching with which these beginning teachers struggled, spelling instruction proved particularly challenging for the study participants in their first year of teaching. In their final questionnaire, the beginning teachers indicated that spelling was the aspect of their literacy teaching they felt the least happy with (Figure 1).

Where spelling programmes existed, they were standalone phonics-based programmes, or commercial programmes based on developmental approaches to spelling where children were allocated words prescribed by a commercial spelling programme, selected according to

an assigned developmental level. This occurred in classrooms where the remainder of the literacy programme was based on social constructivist approaches to learning with a focus on purpose, relevance and meaning. It appeared that spelling was somehow quarantined from other literacy teaching, and these teachers were prepared to sacrifice their literacy teaching principles when teaching spelling or at least put those principles aside.

Characteristics of the spelling programmes in the study

The spelling programmes in all 14 classrooms observed in this study did not demonstrate any understanding of spelling as presented in the preceding description of requisite teacher knowledge about spelling. Instead, they showed the following characteristics:

- an exclusive focus on either the look of the words (visual) or the sounds of the words (phonological), for example memorising words through activities such as tracing over the words, writing the words many times in different colours or configurations, such as spirals and stripes, or sounding out words;
- the delivery of spelling instruction as a discrete activity, quarantined from other literacy work and not related to the tasks of reading and writing;
- a focus on learning words in isolation, as single entities, that is through spelling lists, and not within larger text or context.

The teachers in the study were often self-critical of the way they were teaching spelling and were somewhat aware of the ways in which it contradicted their own broader beliefs about literacy teaching and learning. Vicki's (pseudonyms used for study participants) frustration with the drill and test approach to spelling in her school is indicative of the challenges presented by a lack of an alternative spelling pedagogy:

> *"I'm supposed to do it [spelling tests] on random words that they don't know… But I can't bring myself to do that to them."*

Whilst she baulked at the school's approach, she was at a loss to replace it with something she felt would be more effective. Similarly, Eva, who self-identifies as a dyslexic person, was very concerned about using a purely phonics-based approach in her kindergarten classroom, as directed by her teaching team, because of her own poor experiences with such approaches as a learner:

> *"I didn't want to do a purely phonics-based approach because that got me stuck as a kid – I always wanted to know 'Why is it that way? Like, why is "wake"[wek] not said "wake"?[wekər]"'*

Meg was using a 'letter of the week' approach that her experienced team had constructed themselves. The first five letters for the first 5 weeks of school were the five vowels – arguably the most difficult letters to learn given their multiple phonemic representations (Arndt and Foorman, 2010) and inarguably the most complex when it comes to matching phonemes with graphemes. Meg felt the children were struggling and was concerned she was wasting their time – either because they were not learning the sounds or because they already knew the sounds. In another school, in an observed lesson, Bea's Year 1

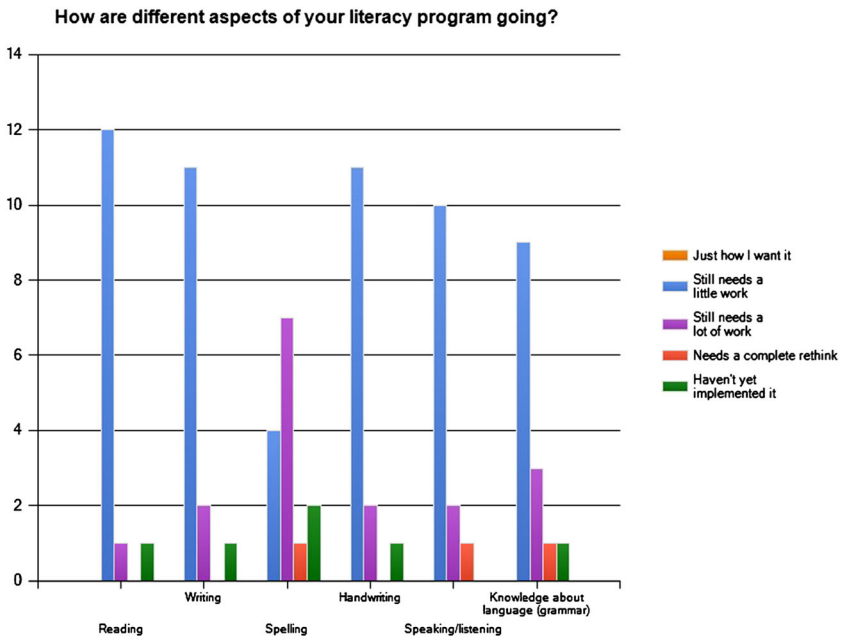

Figure 1: How are different aspects of your literacy programme going?

children were practising words on a commercial spelling worksheet, some of which the children could not read but which they were required to copy in multiple ways, including in spirals and backwards. Bea explained during the follow-up interview: "I wasn't particularly sort of keen on it but because the other two classes were running with it I didn't like doing something different…". Peter felt his school's approach to spelling through take home lists was ineffective in improving spelling in context: "They've got this spelling routine but some of the kids do it and some don't and I just find it doesn't work; it hasn't helped in their writing". However, like the others, he continued to follow the lead of his more experienced colleagues. He did not have an alternative approach to offer, and like all of the participants in the study, he felt his novice status keenly and was not confident to voice his opinion to his colleagues. However as other research indicates, experience is no guarantee teachers will be skilled in teaching spelling. Johnston's study (2001) found that 73 per cent of the teachers felt they were not teaching spelling adequately regardless of years of experience.

Apel et al. (2004a) claim that good spelling results from good teaching, and good teaching results from understanding what spelling involves. Whilst it is reasonable to expect that these beginning teachers' understandings of spelling would have been developed in their pre-service teacher education, it seemed that their teacher preparation had been inadequate. Neither their content knowledge nor their pedagogical content knowledge was sufficient for them to tackle spelling in ways that differed from the standard practice they encountered in schools. Like beginning teachers described in other studies (Johnston, 2001; Nunes et al., 2006), they did not have any plausible pedagogy for spelling instruction. As a consequence, a number of major changes were made to the final literacy unit in the Bachelor of Education degree in the institution from which they had graduated.

Changes made in the teacher education programme

Changes were made to both the content and the assessment tasks in the last literacy unit of the Bachelor of Education degree at the University where they studied. Firstly, they are given extensive spelling knowledge, as described in the early part of this article. Secondly, they are given research articles to read which document findings into how children learn words, and which provide strong evidence for the benefits of a repertoire approach to the teaching of spelling, where children are shown multiple roads into spelling words. Thirdly, they are asked to interrogate school and system curriculum documents to identify the ways in which spelling is identified in those documents and critique the theories of spelling acquisition implied in those documents; for example, the new Australian Curriculum implies a stage approach rather than a repertoire approach. Next, they are asked to develop a scope and sequence for spelling for a selected grade, by conducting an audit of system curriculum documents as well as the research articles they have read. See Appendix A for an example of one such Scope statement for kindergarten, which reflects a repertoire approach to spelling for these young learners. Finally, they are asked to develop a spelling programme, based upon their new understandings, which:

- ensures meaning is paramount – children should always know the meaning of their spelling words – most easily achieved by selecting spelling words from the curriculum work being done in class;
- develops all types of spelling knowledge – giving children in all grades a repertoire of spelling knowledge;

Table 1: Spelling words selected from Magic Beach by Alison Lester

Morphology	*Phonology/Graphology*	*Orthography*	*Visual*	*Etymology*
Compound words	*Onset and rime*	*Doubling*	the	magic
star fish	s - and	*consonants*	our	beast
drift wood	and	digging	and	tangerine
in side	sh - ells	trapped	we	bask
Suffixes	s - un	*Silent letters*	go	castle
horse -s	sw - im	castle	of	
shell - s	p -ool		to	
wash -ed	l - id			
trap (p)- ed	m – oat			
	Long vowels			
	wave			
	wide			
	wine			

Table 2: Sample spelling activities

Morphology
Starfish Focus: Compound Words • Look at the starfish in Alison Lester's picture book (connect to previous learning) • What do they look like? Why do you think they might be called 'starfish'? • How many different words can you hear when we say 'starfish'? • Hold up two cards with pictures of a star and a fish to represent the two separate words • Flip each card over to show the word for each and hold them up together, explain that even though we can hear two different words in starfish it is written as one word • Get children to record this in their wordbooks, picture and word • Explain that in English there are lots of words that have two words in them, brainstorm other examples with the class
Shells Focus: 's' for Plural • Teacher models writing up on the white board and children copy onto individual whiteboards (scaffold through the process). Draw more than one shell to accompany word. • What would happen if we didn't have this 's' sound on the end of 'shells'? (rub it off) What would the word say? –'shell'. What will we have to do to our picture, now that word says 'shell'. • In this word the letter 's' on the end is telling us that there is more than one shell, do you think that might be true on the beach? • What else might there be more than one of at the beach? Let's write some of these down together (follow same process)
Phonology/ Graphology *Shells* Focus: Initial consonant blends • Talk about the word 'shells', what sounds can you hear sh-e-ll-s • Focus on the beginning sound sh- • Sh-, can everyone hear that sh- sound at the beginning of 'shells'? Let's make it together. What other words begin with that sh- sound? Sheep, short, shop etc. • Write 'shells' on a strip of card, (figure it out together) cut where the sh- sound ends • Push the card pieces apart and together sh – ells as you sound the word. • What two letters make that sound 'sh'? Discuss with children • Have cards with individual consonants written on them and create the sh- blend with the children
Orthography *Digging* Focus: Double letters (adding '–ing') • Talk about the word 'digging' what can we hear, see etc. • What does digging mean, everyone dig • When we want to turn the word 'dig' into 'digging' what do we add? • Using magnetic letters model on the white board, compare the two words and find the difference • So to make 'digging' we need to add an 'ing', but what extra letter can you see in 'digging' that isn't in 'dig'? • We need to add an extra 'g', when we add 'ing' to a word we quite often have to double the last letter • Have children practise on individual whiteboards
Visual *The* Focus: Word recognition • When reading the book with the children point out 'the' • Comment on how much we seem to see the word 'the' • This tells us that this word 'the' is very useful in writing, look how much Alison Lester uses it one book! • Share that there are some words that we need to use all the time so they are very useful to know how to spell off the top of our heads • Put children in small groups with a selection of large print known text – from the book Magic Beach and ask children to circle/ cut out as many of the word 'the' as they can find • During the school day have a treasure hunt for 'the' during usual class activity e.g. walking to the library and noticing 'the' on the door sign.

(*Continues*)

Table 2: (Continued)

Morphology
Etymology *Magic* Focus: Word origin and meaning • Let me tell you something special about the word 'magic' It is a word we use in English but a long time ago we borrowed this word from another language • Who can tell me what other languages there are apart from English? Brainstorm with the children. Who speaks another language? • Well this word originally came from French, in France they say 'magique' • Talk about the word, what does it mean? Act it out etc. • Draw a picture of what magic looks like (brainstorm ideas for drawing) • Go home and ask mum or dad if they know how to say magic in another language. Compare these in class e.g. Gr mayiki, Sp magico *Beast* Focus: Word origin and meaning • 'Beast' is another word that English has borrowed from French; in France they say 'beste' which means wild animal! • When English borrowed the word beast they changed the way the word looks. Write up on the board to show the difference • In English 'beast' means a large or dangerous animal, who can remember the beast from Magic Beach? • Have a think inside your head about what you think a beast could look like (prompt and encourage children to be creative) • Describe them to the group • Draw a picture of your beast and write the word 'beast' underneath

Table 3: Student spelling strategies

Morphology
What does the word mean? Do I know the meaning of any of the parts? Does the sound of the word tell us anything about its meaning that could be useful for spelling? Does the word sound like it has more than one word in it? (i.e. a compound word)
Phonology/ Graphology Can I hear a beginning sound? Can I hear an end sound? What sounds are in the middle of the word? Can I write any of the sounds? Do I know any letters or letter patterns that make some of those sounds?
Orthography Do I know a rule that might help me? Is there an ending on the word?
Visual Have I seen this word before? Do I remember what it looks like? Does my spelling choice look right? Where have I seen this word before? What shape is the word? Can I remember what the word or any parts of the word look like?
Etymology Does this word sound like it might be from another language? Do I know where this word is from? Can I remember a story about this word that will help me spell it?

- explores spelling knowledge through explicit, interactive and multimodal pedagogies, which reflect the ways in which they approach their other literacy teaching

The following excerpts from the pre-service teachers' spelling programmes provide an indication of the ways in which they tackle this last task of programming for spelling instruction.

Pre-service teacher Rose Patrick (real names used with permission) used the children's book *Magic Beach* by Alison Lester (Lester, 2006) as the focus of both literacy and cross-curriculum work to explore natural environments with a kindergarten class. The writing focus for the unit was both collaborative and independent recount writing around the children's own experiences at the beach. Spelling instruction was focused on developing a strong repertoire of spelling knowledge and Rose selected words from *Magic Beach* as the children had become familiar with it through their class work. A prerequisite for Rose's spelling work was that children knew the meanings of the selected words. These words then became the vehicle to explicitly teach spelling knowledge. Table 1 shows the words chosen by Rose, and which spelling knowledge items were developed over the 6-week course of the unit. The words were selected because of the affordances they offered in developing knowledge and skills that the children could apply to other words. So, 'starfish' was selected not because of a conviction that all kindergarten children should know how to spell 'starfish' but rather because it offered the opportunity to teach that English words can be made up of meaningful parts – morphemes. Examples of Rose's teaching activities for each of the spelling knowledge items are provided in Table 2. These spelling activities demonstrate spelling instruction that is both meaningful and engaging, whilst also being explicit and direct.

The aim of the spelling programmes developed by the pre-service teachers is not to teach a list of words but to use a meaningful list of words to teach spelling strategies. Therefore, an important component of the spelling programmes is the development of meta-awareness skills in the children, so they are empowered to apply knowledge learned in explicit teaching episodes to their own spelling efforts. This is performed variously by pre-service teachers but includes the use of spelling diaries and reflective word walls. Table 3 contains a student checklist developed by preservice teacher Sami Wansink to build these meta-awareness skills in her Year 2 class.

Conclusion

Without strong spelling knowledge, or accompanying pedagogical content knowledge (Shulman, 1986), the beginning teachers described in this article simply followed the lead of their teaching colleagues. As Apel et al. (2004a, p. 297) note, the teaching of spelling is "often guided by tradition rather than by current research". It is also rarely informed by the spelling knowledge of teachers (Carlisle, 2003; Washburn et al., 2011), who may feel they neither know how spelling works nor how to teach it (Templeton and Morris, 1999). Key to that confusion is an apparent belief amongst educators that words are simply representations of sounds, rather than representations of meaning. This has led to approaches to spelling which are focused primarily on teaching phonological skills (Wolter et al., 2009). This leaves children with an incomplete set of resources to draw upon, ignoring other important resources such as morphological, etymological and orthographic knowledge.

English spelling is neither chaotic nor illogical. As a morphophonemic language, English is quite systematic and unendingly fascinating. The system, and the storying, behind English spelling should be shared with children from the time they begin to engage with print. Orthography, morphology and etymology are not the sole precinct of the advanced learners. They are necessary skills, especially for the children who are finding spelling difficult. They may just be the roads into spelling that they have, thus far, been left to find themselves.

However, to provide such opportunities to their students, teachers require a detailed understanding of the linguistics of spelling. This article has given an account of the professional knowledge teachers should have in this area, to enable early career teachers, and perhaps more experienced teachers, to move beyond teaching spelling as letter sequencing, and instead explore how and why words are written the way they are. An account of how this was achieved in one teacher education programme has been provided as an example of how we can move closer to effective spelling instruction in ways which simultaneously build skills in other areas of literacy, including grammar, vocabulary and comprehension.

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Appendix A: Kindergarten scope for spelling instruction

Phonological knowledge	*Morphological knowledge*	*Visual knowledge*	*Etymological knowledge*	*Orthographic knowledge*
Recognise rhyme. Syllables and phonemes in spoken words (AC)	Understand that words are units of meaning and can be made of more than one meaningful part (morpheme), for example goodnight	Know to write some known words, for example names of children in the classroom	Understand there are languages other than English (AC)	Recognise the letters and know the letter names (AC)
Know that sounds and spoken words can be written down using letters of the alphabet (AC)	Recognise the presence and meaning of syntactic morphemes, for example dog - s and play - ed	Knows to write some high-frequency words from their look, for example I like	Become curious about the origin of words and listen attentively to stories about word origin, for example pavlova is named after the ballerina Pavlova	Develop fluent segmenting of cvc words, for example c - a - t
Awareness of onset and rime (AC)				Use awareness of onset and rime patterns to write new words, b - at and c - at
Identify beginning and ending sounds in words (NSW)				

AC, Australian Curriculum (ACARA, 2012); NSW, New South Wales English Syllabus (NSW Board of Studies, 2012).