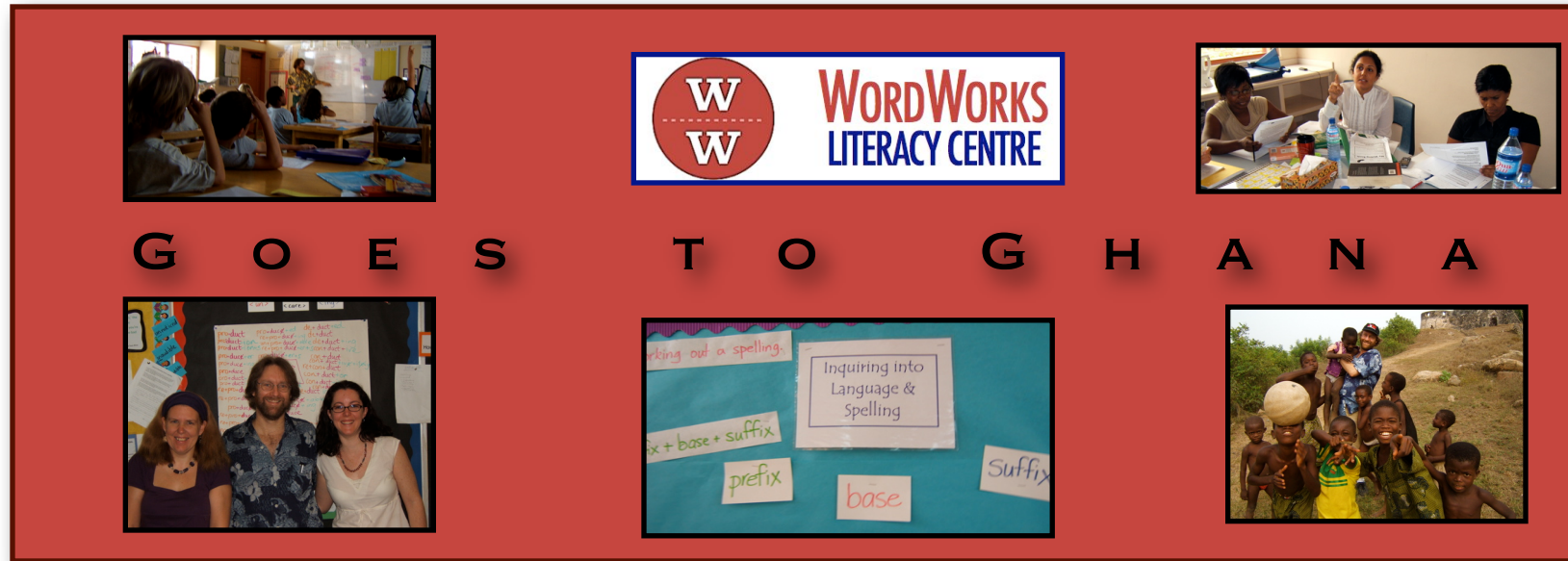# WordWorks Newsletter #33
(Part 2 with additional commentary & images)

WordWorks in Ghana: The Primary Years Programme (PYP) of the IB provides a great launching pad for Real Spelling and "structured word inquiry" instruction.

A note on this Newsletter and the "additional commentary"...
The original version of this Newsletter (minus the commentary and images) was emailed to our newsgroup on March 10, 2008. Using my work with teachers and students at the Lincoln Community School in Ghana as a jumping off point, it describes fundamental features of the writing system that have long been ignored by typical instruction.

The first message of that Newsletter is that the instruction teachers are typically trained to use in the classroom does not represent the underlying structure of how English spelling works. Instead, children are usually taught surface patterns that frequently break down. Many words (e.g., <business>, <does> or <gone>) are taught via memori-

zation because it is assumed that their spelling is not governed by logical, predictable patterns that **could** *be understood. The incorrect assumption that English spelling is irregular gives teachers no hint that -- below the surface -- lies a highly ordered system students can investigate through structured inquiry and problem solving.*

WordWorks takes it as self evident that instruction should accurately represent how the English spelling system works. Further, it is argued that the application of the inquiry philosophy of the PYP curriculum can be brought to classroom instruction of the written word if -- and only if -- teachers are provided with training and resources that accurately represent the logical, coherent structure of English spelling.

After sending this Newsletter to our WordWorks list-serve, I received a helpful, positive and critical (as in "expressing or involving an analysis of the merits and faults of a work") response from Melvyn Ramsden (Real Spelling author). He was quite excited to see what he called a "comprehensively sound document about orthography" in a teaching forum. At the same time, he pointed out details that I could have described more accurately and comprehensively. Some of the issues he addressed were new to me, and others were facts that I forgot or failed to explain as clearly as I could have. I was pleased to find no errors that I considered fundamentally misleading, but his points were important and sparked valuable refinement of my knowledge.

This type of correspondence with Melvyn and others is one of the main catalysts for the continued development of my understanding of the writing system. In that spirit I produced this "Part 2" of the Ghana newsletter for the website which incorporates Melvyn's comments and adds some more of my own. I want to make sure readers have access to the most accurate information I can provide. As well, I'm keen to share my own "learning from mistakes" with fellow teachers. A key message I try to emphasize to educators new to the details of English spelling is that we don't need to know all the answers before we start teaching and investigating how it works with our students. In my response to Melvyn's comments, I wrote the following message. It was a point with which he heartily agreed:

"My view is that I'd rather get on with teaching whatever accurate information I do know, and recognize that there will always be much I don't know. I know a bunch more now than when I started. If I waited until I know it all, I'd never start."

WordWorks workshops with teachers and students at the Lincoln Community School in Accra, Ghana

It is crucial for teachers to get started on the right track with access to the fundamental principles of the ordered structure of the writing system. However, the details have to be worked out with inquiry and investigation over time. This view is as true now as it was in my first year of investigating English spelling with my Grade 4 students and a brand new Real Spelling Tool Box. Though my linguistic understanding was severely limited, it was the first time I had a resource that gave me the possibility of connecting the dots of how the system works properly.

Ironically, not knowing many answers off-hand often sparked the richest learning opportunities I was able to offer students in that first year of using Real Spelling. Within a week of working with matrices and word sums, one of my Grade 4 students developed a hypothesis about how vowel and consonant suffixes act with single, silent <e>s. She had identified one of the most basic orthographic conventions of vowel and consonant suffixes before I was able to confirm her hypothesis by consulting Real Spelling! Another student noticed that the spelling <revving> seemed to break the convention we had learned for avoiding writing two <v>s in a row. That discovery sparked a class investigation that introduced all of us to the idea of a "clip" (<rev> is a clip of re+volute/+ion).

The excitement the students and I gained for learning about the spelling structure of words was enhanced by the fact that we were learning these conventions together. We kept looking for places where the system broke down, but we almost always learned something new about the system instead. I often tell teachers that while overall I am better at this instruction now than I was when I started, there are other important ways in which I will never be as effective as I was in that exciting

first year. When a teacher is discovering how the writings system works for the first time, students get the opportunity to see themselves as honest co-learners with their teacher. As long as the teacher's learning is anchored with resources that accurately represent the writing system, they can be an effective guide for figuring out the system.

Including Melvyn's "corrections" in this newsletter is a way of illustrating how this process has never really changed – just the subtlety of the conventions for which I now need assistance.

The original text of the newsletter (with new figures and minor edits) follows. Underlined sections indicate the points for which there is additional commentary in the margins. I hope you enjoy and learn from my "big fat juicy mistakes" just as we do in the classroom.

WordWorks in Ghana: The Primary Years Programme (PYP) of the IB provides a great launching pad for Real Spelling and "structured word inquiry" instruction.

My visit to the Lincoln Community School (LCS) in Accra last month provides an excellent context to address two main goals of WordWorks – offering teachers a window into (a) the workings of the writing system, and (b) effective, creative ways teachers and students investigate how the structures of the writing system are organized to cue meaning. Soon our website will include more detailed descriptions, images and video clips of the "word detective work" I was able to observe and take part in during my visit. For now, I will use this newsletter to offer a taste of learning the writing system sparked for LCS teachers and students – and myself.

This teaching staff was well prepared for my visit in a number of ways. Many classes had already started to dive into their Real Spelling Tool Box and they also had the benefit of Melvyn Ramsden's workshop at the Association of International Schools in Africa (AISA) conference hosted by LCS this past fall. Some Real Spelling experts also

anchored the staff. The elementary principal, the PYP coordinator and an elementary school teacher had already attended Melvyn's residential Real Spelling course in France.

As I worked with these teachers, many of whom were quite new to this instruction, it became evident that another feature of this school – unconnected to Real Spelling – provided a valuable background for my workshops. The hard work this school had already put into applying the PYP curriculum provided a common frame for the kind of critical thinking and inquiry-based learning WordWorks workshops support. (The PYP is the elementary part of the International Baccalaureate, which has become the "gold standard" curriculum in international schools to prepare students for top universities, and is now also well established in North America). My visit to LCS reinforced how well suited Real Spelling instruction is for schools that have already nurtured a healthy climate of inquiry learning with the framework provided by the PYP. Outlining this natural link is an emphasis of this Newsletter as well.

The **Primary Years Programme Monograph** (2001, p. 3) states: *"Inquiry, interpreted in the broadest sense, is the process initiated by the learner or the teacher which moves the learner from their current level of understanding to a new and deeper level of understanding."* It continues, *"Inquiry involves the synthesis, analysis and manipulation of knowledge, whether through play for younger children or through more formally structured learning in the primary years."*

The phrase "synthesis, analysis and manipulation of knowledge" captures how students attack the written word in a classroom supported by Real Spelling and WordWorks resources and/or training. Note how this philosophy ties directly into #4 of the basic principles I outline in the introduction to our workshops:

WordWorks' basic principles for instruction of the written word:

1. English spelling makes sense, is well-ordered, and structured around cues to meaning (see Chomsky & Halle 1968, Venezky 1970, 1999; Pinker 1999).

2. Students have a right to be taught by teachers who have a solid understanding of how their writing system works.

3. Teachers have a right to training and resources that accurately represent the writing system.

4. *Because English spelling is well-ordered, its basic structures and principles can be taught through inquiry based problem solving as an engine for developing students' (a) word knowledge, and (b) motivation for word learning.*

5. Well-designed practice is important to effective learning. Practice of elements and patterns that prepare the learner to extend their word learning is more productive than practice that targets the spelling of a single word.

The order of these principles is important. Teachers who are committed to developing well-structured lessons that use student inquiry to

fuel the learning process (principle #4) have no way to apply that instructional approach to the writing system if they do not have training and/or resources that make it clear that the writing system is well-ordered (principle #3).

Unfortunately, typical teacher training and resources are built on fundamental misunderstandings of how the writing system works. That statement may sound extreme, but its accuracy can be demonstrated quite simply.

The "rules" we teach children such as CVC/CVVC patterns, <i> before <e> except after <c>, or "When two vowels go walking, the first does the talking" are based on observations of *commonly occurring surface patterns*. Those patterns break down frequently, not because English spelling is highly irregular, but because they are not tied fundamental features that drive how the writing system works to represent meaning cues. Consider the "deep structure" and "surface patterns" of the set of words in Figure 1.

Deep Structure	Figure 1	Surface Structure

Consider just two fundamental principles of English spelling revealed by instruction based on deep structure, but ignored by instruction limited to surface level patterns:

a) Bases, prefixes and suffixes are spelled consistently regardless of pronunciation shifts. Three consistent patterns mark where suffixes are fixed to a base or stem.
(E.g., do/does; busy/business; hope/hoping; hop/hopping).

b) Graphemes are 1-, 2- or 3-letter combinations that represent a phoneme, *and they must be within a morphological element – a base, prefix of suffix.*
(E.g., The word <reach> uses an <ea> digraph, but <react> cannot. Similarly, there can be no <oe> digraph in <does>.)

re+act	→ react
reach	→ reach
do+es	→ does
go+es	→ goes
putt+ing	→ putting
put(t)+ing	→ putting
stop(p)+er	→ stopper
proper	→ proper
hop(p)+ing	→ hopping
hope/+ing	→ hoping
busy/i+ness	→ business

Typical instruction targets commonly occurring surface patterns, irrespective of the underlying meaning-based structure that organizes English spelling. "Rules of thumb" that ignore the structure and purpose of spelling are bound break down frequently.

Surface level instruction teaches children that many words like <does> or <business> can only be memorized because they are irregular. Rules of thumb with many exceptions cannot be taught through inquiry-based problem solving. If we want to apply PYP type inquiry to the writing system, teachers must have access to the underlying structure of words that is reliable and can be problem-solved.

While some of the words in Figure 1 would typically be taught as "ir-regular", that label is not appropriate for any of the words in the set. Instruction based on surface patterns treats <goes> as regular but <does> as irregular – despite the fact that both clearly use an identical structure. In accordance with English orthographic principles, <does> and <goes> mark the meaning of their respective bases and grammatical suffixes with consistent spelling regardless of pronunciation shifts. The word sum (a standard linguistic tool) shows the underlying structure of individual complex words. Ramsden's morphological matrix reveals how written morphology links groups of words related in structure and meaning. The matrix and word sums in Figure 2 show that <done> and <gone> which are also typically taught as "irregular" are in fact consistently and logically structured to represent meaning.

Figure 2

do go	es ne ing		
do + es $\rightarrow$ does	go + es $\rightarrow$ goes		
do + ing $\rightarrow$ doing	go + ing $\rightarrow$ going		
do + ne $\rightarrow$ done	go + ne $\rightarrow$ gone		

Many classrooms use word walls to list high frequency "irregular" words alphabetically to expose children to the (surface) patterns of these basic early words. Instead of teaching kids to think that many of the words they need to learn are irregular and have to be memorized, what if we used matrices and word sums on word walls to expose children to the ordered underlying structure that drives these and any complex word?

Note the inconsistency of "CVC rules". Many children confuse the spelling of the words <hoping> and <hopping> even though they happen to follow the surface patterns we teach in terms of long and short vowels and single or double consonants. Those surface patterns work when we add the <-ing> suffix to the base <put>, but those same "letter-sound" patterns fail if we want to write about <putting> for a golf game. The structural reason for the double <p> in <stopper> has

to do with the consistent suffixing patterns. Unlike <stopper>, the word <proper> is a base. There is no reason this word should have a double <p>, but the patterns we teach children tell them this pronunciation *should* use a double <p>. Thus <proper> is wrongly treated like "one of those exceptions." The fact that the CVC patterns are consistent with the spelling of <hoping> and <hopping> is of little help to the student who remembers the pattern, but wonders, "Isn't that one of the exceptions?"

The conclusion we need to draw from investigating the surface patterns and underlying structures of this small set of words is not that English spelling is irregular, but that we have failed to understand or teach how spelling works. One result of this failure is teaching children to believe that English spelling is unreliable. When we teach a system as if it is unreliable, we force ourselves to rely heavily on memorization. We unnecessarily remove the educational richness that comes with problem solving and *understanding* that is offered by structured inquiry of the English spelling system that Chomsky and Halle (1968) described as "near optimal" for the written representation of the meaning readers already know in oral language. Without understanding how spelling works, teachers can't help students learn to "synthesize, analyze and manipulate" the structures of meaning in the written word.

Seeing how English spelling really works changes everything. It is especially powerful for teachers like those at LCS who have been honing their craft for providing effective, well-structured inquiry based units of instruction with the support of the PYP curriculum. All of a sudden, that expertise can be brought to bear on the task of investigating the structure and meaning of words.

I have come to use the label "structured word inquiry" for my preferred application of that 4th basic principle identified earlier. Consider how naturally this framework fits with a PYP school:

WordWorks Process of "Structured Word Inquiry"

1. Catch kids with an interesting spelling question.
   (e.g., why is there a <g> in <sign>?)
2. Strategically present a set of words that makes the relevant pattern more salient.
3. Help kids hypothesize a solution from carefully presented evidence.
4. Guide testing of students' hypotheses and identify the precise pattern.
5. Practice the identified pattern with appropriate tools
   (e.g., word sums, flow charts)

Because teachers need to be introduced to many of the basic conventions of how words work (see basic principle #2), my workshops regularly teach those conventions to teachers by modelling strategies that can be used to teach those principles to students in the classroom. The morphological, etymological and phonological content of the workshops in Ghana were taught with repeated explicit reference to the use of the structured word inquiry process.

Problem Solving Written Word Structure/Meaning:

Here's an example of an activity I did with the teachers as a model the of a problem solving task that encourages students to look *below surface patterns* for cues of meaning and structure that link or separate words. As I would with students, teachers were encouraged to use word sums to help them confirm the answers. I've included those word sums to illustrate that point here.

A) Circle the words in each list that are connected by a word family. Cross out words that do not fit that family.

1) aloud   allowed   loudly   louder   lowered
   <a+loud>   <allow+ed>   <loud+ly>   <loud+er>   <lower+ed>

2) endanger   ending   send   ends   weekend   anger
   <en+danger>   <end+ing>   <send>   <end+s>   <week+end>   <anger>

B) Sort these words into three families:

   side   sighed   aside   besides   size   sighs   sizes
   <side>   <sigh+ed>   <a+side>   <be+side>   <size>   <sigh+s>   <size/+es>

This type of task illustrates the "structured word inquiry" strategy of selecting sets of words to make the targeted principle more salient for students. In this case the target is helping students look below surface similarities of letters and sounds to look for connections of structure and meaning. The task also reveals the value of the word sum for investigating words. This type of activity has an immediate resonance (<re+sone/+ance>: <sone> for '*sound*') for a staff like the one at LCS that has long been employing inquiry strategies to synthesize and manipulate knowledge in other content areas with the support of the PYP curriculum.

Just for fun, here is another similar task (these activities were all built from Themes in the Real Spelling Tool Box).

Sort the following words into word families:

discover, highness, printing, sprinters, hiring, highest, hired, printed, uncovers, princess, sprinting, prints, prince, sprinted, unprintable, recoverable, sprints, hireling, hirer, discoveries, higher, hire, princeling

In the classroom, I might use this task at a station with these words presented on cue cards. Teams of students could then move the words around as they discuss and work out what the word families are, and which words belong where. Student discussions during a task like this are always generative. One common question this task elicits is whether or not there is a <-ling> suffix, and if so what it would mean. My response to that question is always the same, "Can you think of

other words that use <-ling> as a suffix that is connected in meaning to <hireling> and <princeling>? Students usually find <duckling> pretty readily. A challenge question I often add is to determine whether or not <tickling> uses a <-ling> suffix. If you make a word sum, you will find the answer quickly.

(Try the Word Searcher at http://www.neilramsden.co.uk/spelling for a brilliant, free, web-based tool for finding sets of words by letter string. Click on "Pete's mail (PDF)" for a free eBook describing how simple it is for teachers to use this tool for creating structured word inquiry lessons.)

Diagnosing and Addressing Spelling Errors
The above tasks provide examples of the types of "word detective" activities that are facilitated by a linguistic understanding of the structure of English spelling, and which have a clear link to the educational philosophy in PYP schools. A strong understanding of how spelling works is also crucial for teachers to be able to diagnose and address students spelling errors. This is a particularly crucial element of what Real Spelling and WordWorks offers teachers. Incorporating problem solving in the design of class lessons relates most directly to basic principle # 4 listed earlier. The issue of accurate diagnosis and response to student errors relate more directly basic principles #1-3.

The first example I will discuss came from my second session with the group of LCS teachers who work with struggling readers and spellers. In this session, we wanted to practice applying the linguistic knowledge we had studied to the analysis of student errors these teachers regularly encounter.

When one teacher presented a sample of her student's work with the misspelling <*cvrd>, Rebecca Phillips, the PYP coordinator and a graduate of Melvyn's residential course, quickly provided an astute diagnosis of the child's error. She pointed out that it is likely that the child who made this error was doing exactly what they had been taught to do. To spell the word <covered>, they used <c> for /kuh/, <v> for /v/, <r> for /err/, and <d> for /d/. This child has (a) listened closely to each "sound" they have been told to listen for, and (b) used a letter they have been taught for each of those "sounds".

It is worth emphasizing that this misspelling appears to result from a child doing exactly what students are regularly taught to do. If that is the case, it is certainly a good reason to stop and reconsider how we have been teaching children to think about spelling. This error brought out many of the lessons we'd been learning that week. I'll step back a moment to touch on a few of the issues we discussed here.

The need for precision when talking about "sound" in spelling
Discussing this error was aided by an earlier session on "tasting consonants" that came up when I modelled how I teach the spelling of the word <cat> along with the words <cats>, <dog> and <dogs>. As part of that lesson I asked the teachers to pronounce the first part of the word <cat> just like I would with children. Some teachers offered the correct phoneme /k/, while others pronounced /kuh/. I illustrated how I show children the difference between /k/ and /kuh/ by having everyone put their fingers on their throat and talking about what our tongue, mouth and throat does while we pronounce /k/. If we feel our throats vibrate,

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Melvyn's comment on "put their fingers on their throat"...
Not only imprecise, but risky too! The neck is rather large! The precise organ to feel with the thumb and index finger is the 'voice box' (often referred to as the Adam's apple). Here's an extract from Kit 6 Theme L:

- **'Voiced' and 'unvoiced' consonant phones**

All the vowels are 'voiced'—that is just what the word < vowel > means. Many of the consonants are 'voiced' too. You are going to identify them.

Feeling the vocal cords

First you need to teach a little physiology.

Inside the pharynx (what is sometimes called your 'Adam's apple') are your vocal cords. They produce sound by vibrating. Ask your students to place finger and thumb either side of their pharynx and, just like at the doctor's, say, "Ah." While they make the sound they will feel the vibration of the vocal chords in the pharynx.

Now ask them to do the same again, but this time instead of saying 'ah' they will realize the [h] phone. This time the vocal cords do not vibrate. You don't feel any vibration at all.

➪ Any phone we produce when the vocal cords are vibrating is called 'voiced'. When they do not vibrate, the phone is called 'unvoiced'.

we know we pronounced /uh/ after the phoneme /k/. Now we can prac-
tice until we say /k/ without /uh/ following it to clarify the "sound"
(phoneme) we need to represent when we write <cat>.

Dealing with teaching the word <cat>, which is often thought of as the
most basic, early spelling word, led to one of our many discussions of
the subtle, complicated and crucial role of phonology in spelling.

*(For a more detailed discussion of teaching the role of phonology in teaching spell-
ing, look for the article entitled "The misspelling <*saycl> a brilliant mistake" by
clicking this URL:*
*http://web.mac.com/peterbowers1/iWeb/In%20the%20Classroom%20Site%2044/Mis
spelling%20%3C*saycl%3E%3A%20A%20Brilliant%20Mistake.html)*

For the moment, consider the fact that if we teach children that, "<c>
is for /kuh/", we are actually misleading them to think that the graph-
eme <c> represents two phonemes /k/ *and* /ə/ (/ə/ is the correct IPA
symbols for what I have been writing as /uh/). If children listen care-
fully to this incorrect instruction, one result we can expect is children
doing exactly what we tell them by using the <c> for the /kə/ they
heard in a word like <covered>. A child who follows these instructions
carefully sees no reason to use the <o> for the /ə/ in <covered> (pro-
nounced /kəvərd/). From this child's perspective, the /ə/ has already
been taken care of by the <c>.

To offer the teachers an alternative to typical instruction I illustrated
the linguistically accurate, age appropriate language I use when teach-
ing a spelling like <cat> to the youngest children. Once we have used
the strategy for "tasting consonants" to establish that the first part of
<cat> is /k/ I can say, "One way of writing /k/ is with the <c>."

Note that this language does not imply that this is the only grapheme
that represents /k/, nor does it suggest that this is the only job the <c>
can do. At the same time I have not overloaded them with all sorts of
details. Crucially, by drawing attention to the physicality of speech

*Melvyn's comment on <o> for the /ə/ in <covered> (pronounced /
kəvərd/)...*

*I know that the Mac Dictionary gives the transcription /ˈkəvər/ for the
American pronunciation of <cover>, but the British English pronuncia-
tion is given as /ˈkʌvə/ . The problem with their transcription
/ˈkəvər/ is that the shewa never occurs alone in a stressed syllable.*

It might be better to substitute something like this.

<o> for the [ə] or [ʌ] in <covered>
(pronounced [ˈkəvərd] or [ˈkʌvə (r)d])

From Pete...

*An additional point occurred to me after reading Melvyn's comment. By
not including the /r/ after the /ə/ the IPA for the British English pronun-
ciation of <covered>, I can use that transcription /ˈkʌvə/ to "hear"
the British accent pronouncing that word. Especially in schools with
international populations, we need to be careful that we don't act as if
the pronunciation of our own accent is somehow "more accurate" than
that of another spoken English.*

*It is striking that, regardless of whether or not our pronunciation in-
cludes /r/, the spelling remains constant. The IPA is a sound-symbol sys-
tem in a way that English spelling is not. English spelling does not, and
does not need to account for accents, while the IPA can.*

Also from Melvyn...

(/ə/ is the correct IPA symbols for what I have been writing as /uh/)

Same problem! I suggest this instead.

**([ʌ] or [ə] are the correct IPA symbols for what I have been
writing as /uh/)**

(tasting consonants), I have been careful to make sure that all the chil-
dren have produced the exact phoneme I want them to represent in
spelling.

In the lesson for spelling <cat> we continue in the same manner with the other phonemes and graphemes for the base <cat>. Simply using the plural of the word <cat> sets up the opportunity to teach the word sum. The same issue of "vocalized or non-vocalized" consonants was discussed in illustrating the fact that we use the <-s> suffix for the plurals of <cat> and <dog>. For <cats> this suffix is pronounced /s/ (non-vocalized). For <dogs>, however, the <-s> suffix is pronounced /z/ (vocalized). This is a great opportunity to teach children that the grapheme <s> can be used to write both /s/ and /z/, while the <z> is "boring," as it is only used for /z/. Now, we know that if we need /z/ to mean more than one, we have to use <s> for the <-s> suffix.

All of this discussion is greatly aided by the use of word sums <cat+s → cats> and <dog+s → dogs>. Angle brackets for referring to the names of letters <c> or <s> and slash brackets to indicate pronunciations are also crucial instructional tools (e.g., /s/ or /z/ are not letter names, but the pronunciations *ssss* or *zzzz*).

Working memory and written word instruction
Concrete written representations of graphemes, phonemes, morphemes and word sums greatly reduces the load on a child's working memory as teachers explain how these linguistic features interrelate and link to the words they already know orally. The teacher or student can point to a part of a diagram like the one in Figure 3 to ask a specific question or check their understanding. Consider the task we give children when we ask them to pay attention to sound without (a) discussing what the mouth, lips, tongue and throat are doing, and/or (b) a written representation to point to. Instead we typically ask students to make a speech sound, and then discuss the sound that is now over.

The unnecessary extra load on working memory produced by typical 'letter-sound' instruction is only one of its problems. This issue and others are easily addressed by establishing the use of precise linguistic conventions for representing ph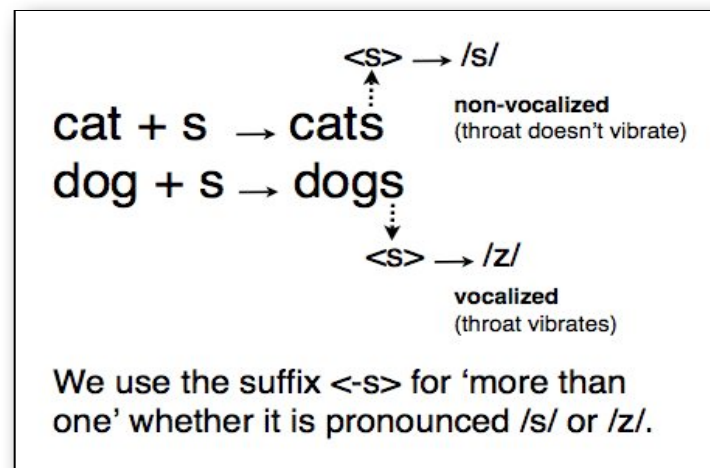onemes, graphemes, morphemes and word sums with children right from the start. Learning these conventions is not an "extra load" or "too advanced" for students. On the contrary, they become levers children use independently to alleviate the challenge of making sense of print whenever investigating the spellings, meanings, and pronunciations of words.

Back to the misspelling <*cvrd>
Rebecca's astute observation for the misspelling <*cvrd> was easier to discuss with teachers as we had already established these principles and conventions. Again and again during the workshop sessions important linguistic principles we had studied earlier became crucial to explaining new spellings. Seeing the link between student errors and the typical imprecision of our teaching about sounds and letters was key for the teachers. Having new linguistic knowledge that helped understand and address this kind of error brought the point home.

One linguistic principle relevant to this error that came up again and again in varied contexts is the fundamental spelling law that "every spoken syllable needs at least one vowel letter to represent it." This spelling error tells the teacher that this child needs to be reminded of

Figure 3

$$<s> \rightarrow /s/$$
non-vocalized (throat doesn't vibrate)

$$cat + s \rightarrow cats$$
$$dog + s \rightarrow dogs$$

$$<s> \rightarrow /z/$$
vocalized (throat vibrates)

We use the suffix <-s> for 'more than one' whether it is pronounced /s/ or /z/.

that fundamental principle. By tapping out the syllables, we know we need at least two vowel letters, and we don't have any yet!

The discussion of how to address this spelling with the child brought us back to the same set of questions Real Spelling reminds us to use when working with a spelling of word:

> **What does it mean?**
> **How is it built?**
> **What are its relatives?**
> **What are the important sounds?**

Asking what the word means also helps the student see how the word is built. The word <covered> is from "to cover", which gives us the base. Some relatives that might help confirm that we know the family we are working with include <covering>, <uncovered>, <discovery>, etc.

Now we can work with the child on the spelling of the base and the suffix of the target word. With the morphological structure set, we can safely work with the grapheme-phoneme correspondences. When we talk about the phonemes in this word we will be discussing what our mouth, lips, tongue and throat are doing to make sure that we are both making and hearing the bits of speech that we need to.

Since the word we were trying to spell is the past tense of <cover>, we need to review the three pronunciations of the past tense <-ed> suffix (/d/, /t/ and /Id/). We might have the child identify which of these pronunciations they hear in the word <covered>. Because we know we need the word <covered> to mark the past tense, we also know we need to use <-ed> even though this <e> does not represent any phoneme. The young child of WordWorks' friend Sharon Reichstein provided my favourite response to the statement that the <-ed> suffix is not pronounced /ed/. He immediately asked her mom about the word <bed>. This helped Sharon teach her son the difference between a let-

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Melvyn's comment on "the past tense <-ed> suffix"...
This is both incomplete and misleading.

I often see <-ed> referred to as "the past tense suffix", or the like.

1. Strictly speaking, one of the functions of <-ed> is to form the past participle (in contrast to the present participle in <-ing>).

2. The past participle is used (i) with the auxiliary <have> to form the present perfect and pluperfect tenses (which are both 'past' tenses); (ii) with the auxiliary <be> to form all tenses of the passive mood - past, present and future; (iii) to form adjectives.

3. Past tense inflections are also effected by the suffix <-en> and by ablaut / gradation (stem vowel change); <-ed> is, then, not the past tense suffix, but a past tense suffix - among other functions.

How can we know what the function of <covered> is when there is no context?

- "a covered passageway"?
- "the plants will be covered over during the winter"?

Pete's comment...
This is a point that may seem "picky" to many, but I think it is extremely important. This is an example of a lesson that I have encountered before, but clearly not yet internalized. The example that taught me this point originally was the word <stained> as in "stained glass".

Aside from the basic principle that children deserve accurate instruction, it is worth noting how simple it is to be precise. I could have simply stated, "Since the word we were trying to spell is the past tense of <cover> we need to review the three pronunciations of the suffix <-ed> that we often use to mark the past tense." Depending on where my students are, I have the option of whether or not to describe the other jobs of the <-ed> suffix at this point. However, simply getting language like "often used" or "can represent" into our instruction avoids the problem of giving messages that we later have to amend.

Exactly this kind of issue came up during one of the Ghana workshop sessions on a different topic. In the process of talking about the graphemes for the phoneme /k/, we listed <k>, <ck> and <c> and I stated, off-handedly, "there may be more" before moving on to the point I was focusing on. A moment later a teacher reminded us of the <ch> grapheme which very commonly represents /k/, and is a marker of words of Greek origin when it does (e.g. <school>).

(Comment continued next page.)

ter string <ed> and a suffix <-ed>! (This is just one example of why we need to establish the morphology of a word before we address its phonology safely.)

Accurately diagnosing the source of a spelling error is essential. A child's mistake tells us what they do not yet understand. The teacher needs to know enough about the writing system to see what the child is missing, and then make an informed judgement as to which features of the writing system the child needs to work on when. At the same time that we use a spelling to teach or remind children of fundamental features of the writing system (e.g., every spoken syllable needs at least one vowel letter to represent it, or the three pronunciations of the <-ed> suffix) we can simultaneously fix the spelling of a particular word, and a number of its morphological relatives in the child's memory. In working with this spelling, we could make a small matrix and ask the child to write the word sum for <covered> and various other members of this word family. The processes of thinking of derivations and inflections can be aided by referring to affixes from a morpheme chart on the wall. We would help the child spell the letters out loud in their morphemic groups as they built word sums (e.g., c-o-v-e-r *pause* e-d; d-i-s *pause* c-o-v-e-r *pause* y...).

With this strategic practice (see the 5th basic principle), the child repeatedly spells the base in every word sum. They also develop their bank of affixes in words of connected meaning while capitalizing on motor memory by writing and spelling each word out loud in morphemic groups. At the end of all this practice, a great strategy is to have the student build the word sum for the original target word again, and then with their eyes closed, write and spell <covered> out loud. Children are always amazed at how effectively they can write a word without looking when practiced in this way. This also reinforces that their memory for the spelling of this word is not in what it looks like, but in the motor memory of spelling the word out. When this child

I seized that opportunity to congratulate the teacher for not letting that sneak by, but also to pointed out how pleased I was with myself that I had not stated "these are the graphemes for /k/" as if they were the only ones. In the moment of teaching, we can't keep every detail in mind. Unless we have a good educational reason to make a definitive statement, and unless we are very confident, why not make statements that leave the door open for other discoveries? Such a practice communicates an invitation for other suggestions, and avoids the need to go back on previous statements. Further, when definite statements are made, they stand out as ones that can be counted on. As soon as the teacher reminded us of <ch>, I also remembered that there is also the trigraph <que> for /k/ in words of French origin.

I would argue that Melvyn's point about how I referred to the <-ed> suffix is not a just being "picky". It represents an important attitude of precision teachers should have in the language we use in our instruction.

Teachers know how difficult it can be to help children identify parts of speech in a sentence. If we want children to understand the role of verbs, nouns, adjectives and adverbs, teaching them that words using the <-ed> suffix mark the past tense is sure to cause confusion. Once we think of it, we can find this suffix used very frequently in words that are not past tense. What is a student to think when they try to apply what I taught about the <-ed> suffix as they run into statements such as: "the closed door", "smoked salmon", "the yellowed paper" or "blackened toast"? Clearly a very common job of the <-ed> suffix is to form adjectives. Since this is the case, teachers and students need to be aware of this fact. It seems to me that teachers often assume we make things easier for children by teaching them a "simplified" version of how things work. It is my suspicion, however, that being taught that something is one way, and then finding out it often acts another way is much more frustrating and confusing that simply being given the message that they will learn one piece of information now, but there is more they will learn later.

Applying the basic principle that "students have a right to accurate instruction about their language" tells me I need to learn to say "the <-ed> suffix often forms the past tense" instead of "the past tense suffix <-ed>." It also tells me to say, "One way to write /k/ is with the <c>." I'm convinced that instead of complicating matters, bringing precision to the language we use in our instruction adds clarity to our students' understanding. Further, I think sharing our own learning process with our students when we realize our mistakes feeds exactly the culture of learning that we look for in our classrooms.

comes to write <covered> in the future, it is likely to simply flow out of his/her hand in the proper morphemic groups in a similar way that it is easier to remember phone numbers when we are about to push the numbers on the key pad.

The next helpful spelling error <*marvlus>
Just briefly, I will describe how I addressed this wonderful mistake as I worked in a Grade 4 class at LCS. To practice word sums and matrices before jumping into a lesson on bound bases, I picked the word <marvelous> (US spelling) that I saw on the wall and asked if someone would have a go at spelling it. I couldn't have asked for a better mistake to learn from! When we say the word <marvelous> in a typical sentence, we usually just pronounce it with two syllables. Teachers will often treat this word or words like <history> and <mystery> as if they are three syllable words during instruction, but that requires them to pronounce those words in ways that they are not pronounced in their normal speech. When I asked a child to spell the word <marvelous>, I pronounced it normally and the child represented the pronunciation of the word, but not its meaning and structure.

Now I could use this error to help the class think about this word and how it must be spelled. We talked a bit about what the word means, and that again helped us with its structure as it pointed us to the base <marvel>, which was logically connected to the word <marvelous> in structure and meaning. This class had a suffix chart to help us, so it was easy to establish that we needed <-ous> to add to the base. Our analysis confirmed a connection in structure (the word sum worked) and meaning (both relate to the meaning of the base <marvel>). When we say the word <marvel> we do hear two syllables. The spelling law, "every spoken syllable needs at least one vowel letter to represent it" helped us once again!

When we hear /əl/ at the end of a word, there are only so many ways to spell it. If /əl/ is a suffix (e.g. <signal>, <final>, <natural> etc.) then we will always use <-al>. We can test if <marvel> ends in a suffix by peeling off the suffix orally. When we do, we will find <*marv> doesn't make any sense, so <marvel> must be the base. <u>The most common spelling for /əl/ at the end of a base is <le>, but <el> is also used, and that is the case for <marvel>.</u>   Since the pronunciation of the base needs the <e> to represent the second syllable, it must remain in the word <marvelous> even though it is not usually pronounced in this complex word. The basic principle that the spelling of bases and affixes remains the same despite shifts in pronunciation across related is reaffirmed with this investigation.

We had now used morphology and phonology to diagnose and address this spelling error in class. We built a little matrix with other words children suggested like <marveled> and < marveling> (US spellings).

> *Melvyn's comment on...*
> ***The most common spelling for /əl/ at the end of a base is <le>, but <el> is also used, and that is the case for <marvel>.***
> -----
> *On page 10 of Kit 4 Theme J you will see that such final spellings as <*nle> <*mle> <*vle> <*wle> <*rle> are "non-permissible" in English orthography. It is not just that <marvel> is not spelled <*marvle>, it cannot be!*
>
> *Remember that <u> and <v> only finally separated as graphemes just over a couple of centuries ago, and you will see why this convention exists.*
>
> ***Pete's comment...***
> *I particularly appreciated this comment because it was new to me. If I had run into this convention, I had no memory of it. I am keen to share this error, because it gives teachers an example of dealing with not knowing an answer to a spelling question in the midst of teaching.*
>
> *(Comment continued next page.)*

With the warm up practice of building a matrix and using word sums, we were ready for the main event, which was working with the twin base <duct/duce>. Sarah Pickles, a teacher who had studied with Melvyn in France, had asked me to introduce <intro+duce> this feature of morphology. This twin base for 'lead, bring' is a wonderfully educational <e+duce/+ate/+al> base that I frequently use for introductory <intro+duct+or+y> lessons on this topic!

Sarah made my day when she told me that in the lesson that followed, as they were making word sums from the matrix the class built on <duct/duce>, one child exclaimed, "I love spelling!" With this new idea of "twin bases" another student came up with an idea I like very much. They suggested that words that come from the same root, but are of different bases should be called 'cousins' (e.g. <please> and <plea> share the Latin Root 'placere' but are distinct bases).

(The Newsletter continues on page 15. The next page provides a model of morphology and etymology that was developed during this set of workshops that I wanted to share in light of this wonderful student suggestion of a term for etymologically, but not morphologically connected words. This is a concept I work very hard on with teachers!)
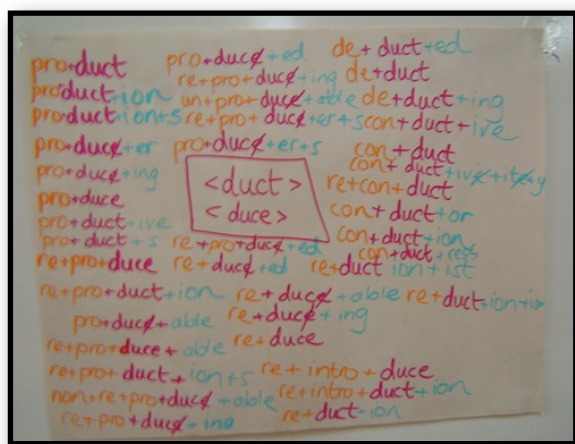
The word sums for the twin base <duct/duce> Sarah Pickle's class pro+duce/+ed!
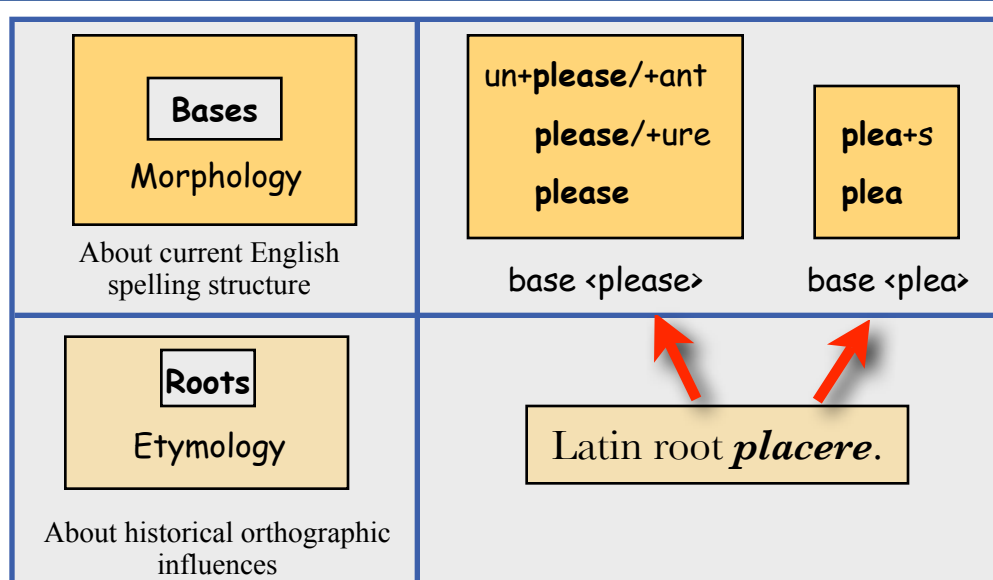
My error here was not that I didn't have this spelling convention in my back pocket at the moment I was working with students. There will always be times during instruction when we don't know the reason for a spelling. My mistake was the way I stated the need for the <el> in this case. It would have been better to say, "Usually, when you have /əl/ at the end of a word and it is not a suffix, you use <le>. In <marvel>, however, we need <el>. I'm not sure why, but I'm sure there's a good reason." I don't need to stop the focus of learning to solve that question right now, but why not identify the fact that we have just noted an interesting spelling question that we can return to later.

One of the strategies I described in our workshops would have been useful to employ here. I encourage teachers to have a spot on the wall to post unresolved spelling questions (See image to the right of one such wall in an LCS classroom!). If we post questions like "Why <el> instead of <le> in <marvel>?" as they come up, we keep track of questions that we can return to later without derailing the focus of a given lesson. If teachers and students keep adding to those lists, and start to share there "sticky spelling questions" with each other the answers will more often than not be discovered. In the case of <marvel>, a quick look at the Real Spelling Theme Overview chart would have revealed Theme 4J with the title "Choosing between <le> and <-al> at the end of words" as a likely place to find an answer.
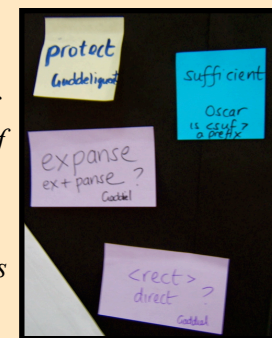
Returning to class a few days after a spelling mystery has been identified and announcing that we have found an answer to the question about the <el> at the end of <marvel> provides a great teaching opportunity. It may be a short description of the pattern, or if it seems appropriate this question might lead to a series of lessons from Theme 4J. The point is that students have had their interest sparked by a question that the teacher did not know the answer to either. Each time a "sticky spelling problem" is resolved, students have more and more reason to trust the writing system. They learn that if they bring up questions, answers can be found. When the teacher has a system for recording questions on the fly, they can avoid derailing the focus of a lesson, and they don't need to feel any pressure answer every question right away. At the same time, such questions are not tossed as "exceptions" to memorize, but puzzles that can be addressed later.

(Comment continued next page.)

Bases

Morphology

About current English
spelling structure

Roots

Etymology

About historical orthographic
influences

un+**please**/+ant

please/+ure

please

plea+s

plea

base <please>   base <plea>

Latin root *placere*.

This model illustrates different ways morphology and etymology use spelling cues to mark meaning. I developed this model during a workshop with the teachers at LCS (See white board image to the right!). The Grade 4 student's idea that words like <plea> and <please>, which are linked etymologically but not morphologically could be called "cousins" suggests they have a good sense of this concept that has caused many teachers (including myself!) a good deal of effort to resolve. Some basic points to keep in mind follow...

Important principles:
• If words are morphologically related (have the same base), they necessarily
  share the same etymological origin (share the same root).
   E.g. <pleasant>, <pleasure> and <please> share the same base <please>, so
   they must come from the same historical root.
• If words are etymologically related (share the same root), they are not neces-
  sarily morphologically related (they may or may not share the same base)
  E.g. <please> and <plea> share the same root (L. placere) but are distinct
  bases. Because they are connected in meaning through their Latin origin, they
  share orthographic features (e.g., both use the <ea> digraph), but they are not
  in the same morphological family.
• Test for connections of morphology with a word sum. If there is no word sum
  with attested morphemes that can link two words, those words are almost cer-
  tainly not morphologically related.

Investigate more about the morphology/etymology relationship at this link:
http://web.mac.com/peterbowers1/iWeb/In%20the%20Classroom%20Site%2044/Morpho
logical%20vs.%20Etymological%20Links.html

This "additional commentary" is particularly relevant to the general theme of this newsletter. When teachers have resources that provide them with accurate information about how English spelling works, they get to use the spelling of words as the context for structured inquiry. Crucially, teachers don't need to have know the answers to start that process - but they do need to know that there are logical answers to just about every spelling, and the chances are that with a bit of effort, the answer can be uncovered. The lesson for me as a teacher is to get, "there is undoubtedly a good reason, but that I need to investigate further" more automatically into my instruction.

As teachers start working with matrices and word sums with students, they will inevitably run into interesting questions. Some of those questions will provide the spark for the next investigation. The teacher needs to pick which of those questions is the most useful to address with the class when.

The more teachers investigate the writing system with linguistically accurate resources, the more they deepen their understanding. As understanding deepens, their confidence and skill for designing "structured word inquiry" lessons grows. Crucially, by this modelling of learning, these teachers simultaneously bring students through the same deepening understanding and inquiry process. This is why so many teachers who do a short workshop with us, and who have access to at least some Real Spelling and/or WordWorks resources seem to just keep going and going. The key is to have accurate information for how the writing system works, and then to get started learning it with students.

Mistakes such as the ones described in this newsletter are going to happen, but that's just part of learning any complex content area. If we wait until we think we know all the answers, we'll never get started.
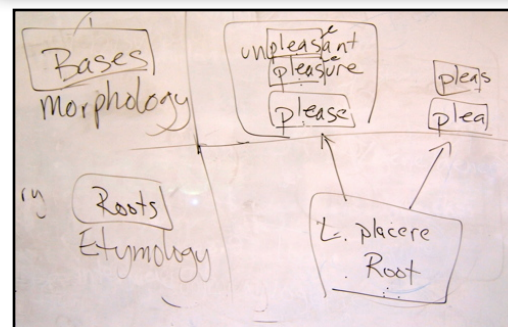
This is a shot of working out the morphology and etymology of <please> and <plea> during the workshop.

A recent chat with Melvyn added he hint that we could use this information to address the question why we don't use the spelling <*plese> which could also be used to spell <*plesure> This spelling would work morphologically and phonologically, but it would fail to show an important link to one of the letters in the Latin Root 'placere'. Etymology explains the need for the <ea> digraph!

The image of the work on the <duct/duce> twin base on page 13, and in the picture below of her version of a word wall, shows the amazing way Sarah has already brought the writing system alive with the structures of English spelling since she studied with Melvyn. The website now has images from other classrooms in Ghana and around the world doing similar work.

Sarah's "word structure wall"

Sarah also walked me through some student workbooks while I had my little video camera going. I will post those clips to the website and YouTube as soon as I can. It's so valuable for teachers to see how various teachers use and adapt Real Spelling and WordWorks resources to their own purposes.

Until then, I encourage you to observe Melvyn teaching a Grade 5/6 class about twin and bound bases sparked by an inquiry into how the words <produce> and <production> are linked. Click the Index of Videos link on our homepage and follow the links.

I have included a great deal of information in this Newsletter. I hope that going into some of these details of the writing system in the context of the classrooms and workshops in this trip to Ghana help clarify why this instruction is so important. I encourage you to mine the

Part of the great LCS staff. Thanks for a great trip!

WordWorks and Real Spelling websites to take yourself farther. To get a strong start to the next year, do consider joining us for our 3-day course in July (22, 23, 24) or suggest a date in August. It is an intense, but fun three days. With that background you will be able to confidently dive into problem solving and understanding the writing system with your students!

Peter Bowers