"Why is there an <h> in the word school? We don't hear it." Grade 1 Student

Part 1

I received this wonderful question through Devon Kirk, a Grade 1 teacher in Dubai. After responding to Devon, I thought it might be productive to "unpack" that correspondence as a way to look at some common features of structured word inquiry.

I start by highlighting three interrelated features of this instruction that I emphasize in this piece.

(A video on this same question is available here.)

1) The goal is systemic understanding

It is not important which word is placed under the microscope for study. It *is* important that studying a given word results in a richer understanding of the spelling system. A learner's grasp of newly introduced spelling concepts is fragile at first but will be strengthened through guided application of that new knowledge to the task of making sense of other words. Systematic understanding is built by learning about the parts of a domain and how they fit into the whole.

2) Capitalize on student curiosity

Since the spelling system can be studied through any word, our choice of word to study can capitalize on student curiosity. The spelling concepts targeted in this structured word inquiry could have been targeted through countless other words as well. The word <school> is the right choice in *this* case because it was selected via student curiosity about its use of the letter <h>.

3) Assessment

The ability of a teacher to assess students' understanding of the spelling system is integral to every stage of a structured word inquiry. I use the student's question about <school> to assess her spelling knowledge. That assessment informs my immediate response, the task I suggest for a follow up activity, and the suggestions for subsequent formal assessments.

govern: from Latin ***gubernare*** ***'to steer, rule,'*** from Greek ***kubernan 'to steer.'***
- Oxford

- Every teacher assessment and every student task in a structured word inquiry is *governed* by a search for clearer expressions of how English spelling works.

Starting a Structured Word Inquiry: A question of assessment

The first step in a Structured Word Inquiry is to pose an interesting spelling question. Teachers can pose questions with the hope it sparks the necessary interest for the study of a given spelling concept. However, a question from a student is often the most appropriate starting point because the asking of a question is evidence of already established interest.

As Real Spelling reminds us over and over, we don't make spelling mistakes on purpose[1]. A student's question about the spelling of a word provides an inherently authentic assessment of what a student does and does not understand about the writing system.

Structured Word Inquiry & Understanding by Design

For teachers in schools working with Understanding by Design (UbD) and "backwards design (Wiggins & McTighe, 2005), I have included a note at the end outlining how well the structured word inquiry process described here relates to that curriculum. I also share a selection from the structured word inquiry curriculum of the International School of Beijing,www.youtube.com which uses the UbD frame.

[1] The Real Spelling Tool Box includes a resource called Orthographic Analysis. This is an exceptional resource about the assessment of spelling knowledge. It is the only assessment resource I know of whose sole guiding principle is the seeking of increased precision in the description of English orthography. Much of this article builds on ideas I first encountered in that reference.

In this case my assessment is based on considering the following question:

- *What cues about this student's understanding of our spelling system are offered by this question about <school>?*

At the very least we know that this student does not know that <school> uses a <ch> digraph for the phoneme /k/. Further, I infer from her question that she assumes that the letter <c> represents the /k/ of <school> and that this incorrect assumption makes her wonder about the <h>.

My assessment suggests a need to introduce and/or reinforce two central concepts about spelling that are relevant to the understanding of every single written word.

1. *One of the jobs of individual letters is to work on their own or in a group of 2 or 3 as graphemes, which spell phonemes.*
2. *Most graphemes are associated with more than one phoneme, e.g., <s> can represent /s/ (cats) and /z/ (dogs); <ch> can represent /tʃ/ (chip) and /k/ (school).*

If you inspect the Structured Word Inquiry Curriculum from the International School of Beijing (page 6), you will see they have identified these foundational orthographic concepts under the phonological strand. When schools build their curriculum on orthographic concepts like this, teachers are reminded to keep on the lookout for opportunities to to address these fundamental concepts from the start.

Spelling-Out Word Structure: Assessment & Instruction

My response to Devon suggests that she start with a "spelling-out" process that targets the spelling concepts listed above in the context of the word <school>. Next those same concepts are investigated by applying the spelling-out process to other words. Finally that same spelling-out task is used in suggestions for formal assessment.

Responding to this question about <school> from Devon's Grade 1 students: A model of a Structured Word Inquiry

[The following text in Times New Roman *is adapted from my email to Devon.]*

You could start just by writing the word <school> on the board and asking your students to spell it out loud.

Likely, they will name the letters out loud "s--c--h--o--o--l" one letter at a time. When they do, you can tell them you are going to spell it *even better.* Who can spell <school> "s--ch--*double-o*--l" like you?

They don't need to know it yet, but that simple challenge encourages your students to strive to announce the graphemes used in the word <school>. Once a few kids show they can meet your challenge, you can ask them if they have an idea *why* you spell <ch> together quickly instead of "c--h" and "*double-o*" instead of "o--o" like they did at first. *[Spelling concept #1]*

To fully answer Susie's question, at some point we would have to address phonemes <ch> can represent *[Spelling concept #2]*.

As her teacher, you are in the best position to judge whether you think this student and your class are ready to *investigate* both of these concepts now, or if it is better to tackle them one at a time. It is certainly an option to start just by addressing the mistaken assumption (illustrated by her question) that the <c> and the <h> are separate units in this spelling.

investigation: L. *investigationem* (nom. *investigatio*) "a searching into, a searching for," noun of action from pp. stem of *investigare* "to trace out, search after," from *in-* "in, into" (see ***in-*** (2)) + *vestigare* "to track, trace," from *vestigium* "footprint, track" (see ***vestige***).

- **Etymonline**

Click here for a scientific analysis of <investigate> by a student and tutor with the help of the Word Microscope.

If you want to focus on the first central concept that letters often act in teams of one, two, or three, you can just practice this idea by playing a game of "spelling-out graphemes" with some familiar base words. How about having kids see if they can correctly spell out the following words?

Spelling out graphemes of bases (simple words)

<teach>: t--ea--ch
<teeth>: t--double-e--th
<the>: th--e
<night>: n--igh--t
<play>: p--l--ay
<catch>: c--a--tch
<black>: b--l--a--ck
<jump>: j--u--m--p (I like throwing in words with only single letter grapheme only words just to keep everyone on their toes!)

Spelling out graphemes & morphemes (complex words)

When you are ready, start throwing in some complex words and introduce the idea of saying prefixes and suffixes quickly:

<teacher>: t--ea--ch-----er (Emphasize the long pause after the base)

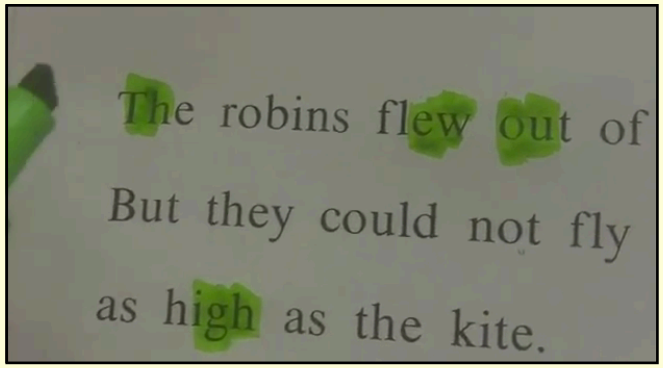
<playing>: p--l--ay-----ing (Emphasize the long pause after the base)

Ideas for formal summative assessment

Imagine that the structured word inquiry described here started on a Monday. All week, the teacher and students could be on the look out for digraphs and trigraphs in their reading. Short "spelling-out" challenges could be worked into any activity. As new digraphs and trigraphs are identified, they could be collected on a wall chart in the room. Perhaps following the lead of Grade 1 teacher, Skot Caldwell in this video, the teacher creates some activities where students use highlighters to identify digraphs and trigraphs and word sums from words taken from their classroom reading. As you see in the end of that video, young students would be encouraged to share new digraphs they discover and add them to their classroom chart.

Now imagine that the teacher decided to do a summative assessment on Friday to see how well each student has learned to identify digraphs and trigraphs through the spelling-out conventions they have started to learn. This teacher could create a list of 5 - 10 words drawn from stories read in class and/or vocabulary from subjects studied that week. That list could include words with a <ch> digraph and other digraphs and trigraphs that came up that week. Perhaps some new graphemes could be introduced as a way to see if any students were able to apply what they had learned to discern graphemes they had not been explicitly taught yet.

Finally, each student could be called up to the teacher's desk and asked to spell-out the words in this list on Friday. In this way the teacher could formally assess the understanding of each student and use that information to inform the next instructional goals. A carefully chosen list would reveal learning according to levels of transfer from what was specifically taught.



The above screen shot is taken from the video of a Grade 1 student in Skot Caldwell's class. She highlighted the digraphs and trigraphs she has identified so far in a photocopy of text from a big book they have studied. By highlighting first, students can give themselves a cue for proper spelling-out. The spelling-out signalled by the (correct) highlighting here is as follows:

th--e f--l--ew ou--t h--igh

For example, words can be chosen to assess which students can use the spelling-out word structure strategy to identify

- Graphemes they have studied in words they have studied;
- Graphemes they have studied in novel words;
- Digraphs and trigraphs they have not yet studied;
- Morpheme boundaries.

If desired, teachers could devise written assessments in which students highlighted or circled digraphs and trigraphs and/or constructed word sums.

In fact, now that you, the reader, have been introduced to this process, why don't we use it to assess *your* learning so far?

Here is a sentence from the wonderful "Paper Bag Princess" by Robert Munch that I'm using for an upcoming Skype workshop with a Grade 2 class. "Elizabeth **walked right over the** dragon and **opened** the **door** to the **cave**."

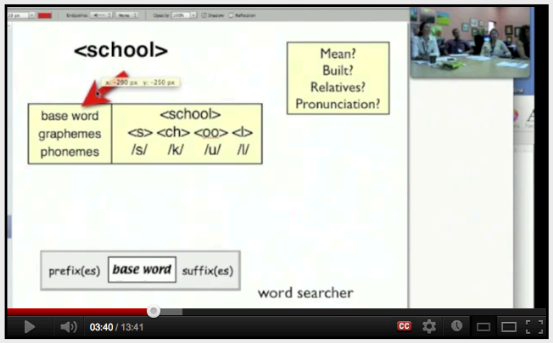
When I publish part 2 of this article, I will provide an answer key to the proper spelling-out of the words I bolded in that sentence. If this is new content for you, why not find a learning partner and work out how you think these should be spelled out before I offer an answer key? If you can't wait email Pete!

Links to Understanding by Design:
Key concepts - Assessment - Instruction

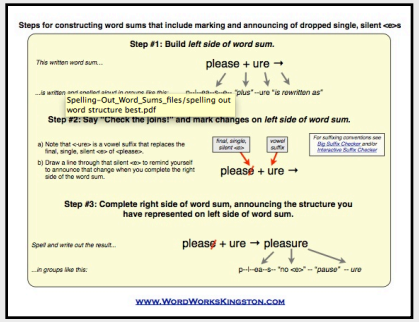
Note that in this example of a structured word inquiry, teachers must first identify key concepts about English spelling they need to teach (in this case concepts about how graphemes work). Spelling-out word structure is identified as a performance task that can be used to assess whether students have learned that letters can work individually or in teams of 2 or 3. Since spelling-out word structure will be used for assessment at the end, it is crucial that the conventions for spelling out are taught and practiced throughout the lesson. For more on the links between Structured Word Inquiry and the Understanding by Design curriculum, see the following pages.

Links to Related Resources

- *Go to this link for a video in which I address this same content in a Skype word session with Grade 2 teachers. (Screen shot of that video at right.) This session introduces ideas addressed in the upcoming part 2 of this document. That document and this film address ways I could introduce terms like base, grapheme, digraph, trigraph, and phoneme in the context of this investigation of <school> in a Grade 1 class. I also address the second key concept identified at the beginning of this article -- the fact that graphemes often represent more than one phoneme in different words.*



- *Go to this link for more about spelling-out word structure. At that page you will find a link to a pdf of a document outlining all the conventions for spelling-out word structure.*
- *Go to this link for LEX grapheme cards -- the best resource I know for identifying graphemes, the phonemes they can represent, and the circumstances under which they can do so.*



Spelling-Out Word Structure Resource

LEX Grapheme Cards

Backwards Design & Structured Word Inquiry

[L]earning to read is learning how to use the conventional forms of printed language to obtain meaning from words…This view implies that the child learning how to read needs to learn how his or her writing system works" (p. 34).

Rayner, K., Foorman, B.R., Perfetti, C., Pesetsky, D., & Seidenberg, M.S. (2001). How psychological science informs the teaching of reading, American Psychological Society, 2, 31-74.

I suspect that most educators agree that understanding of the writing system should be a key learning goal targeted by literacy instruction. But do we accept the educational responsibility that comes with the identification of this as a central goal of literacy instruction?

According to the principle of backwards design from Understanding by Design (Wiggins & McTighe, 2005), after teachers identify a learning goal -- and *before* they design lessons related to that goal -- they should decide what types of student behaviours constitute evidence that a chosen learning goal was achieved. What could students do to show us they understand basic principles of English spelling? To answer this question, teachers need to be able identify the principles students should learn.

Thus, schools that are committed to the principles of backwards design have a clear, necessary first step if they want to apply those principles to instruction of the written word.

- *Schools need to ensure that their teachers have resources and training that represent the basic spelling conventions they need to teach.*

Teachers with resources that build on those principles are able to assess their students' knowledge in many ways. For example, they can just ask students to *demonstrate* their knowledge of foundational spelling conventions by explaining the spelling of everyday words like <does>, <rough>, <because>, <know>, <house>, <pleasure>, or <school>.

As illustrated in the example of the investigation of <school>, a quick assessment of a child's understanding of the structure of any of these words can be achieved simply by presenting the word in writing and asking the student to spell-out its structure.

Consider another example with the word <rough>. If a student spells <rough> "r--o--u--g--h," we know they need instruction and practice with the <ugh> trigraph. If they spell it "r--o--ugh" they signal that they know about trigraphs, how to announce them in spelling, and that the trigraph <ugh> is a way of writing /f/. Just a few possible lines of inquiry that a teacher could instigate to examine the extent of that knowledge include the following.

- Can students pronounce the phoneme represented by the <ugh> trigraph in <rough>?
- If a student is asked to explain why the spelling of <rough> is unlikely to be of direct Greek origin, can he or she point out that usually such words use the <ph> for the /f/ phoneme?
- Can students analyze and explain the meaning of the word <roughhousing>? Why does this word need more than one <h>?

Clearly, however, we could expect children to be able to demonstrate any of this spelling knowledge only *if they have been taught by teachers who themselves have this understanding of spelling.*

It is here that we find the brick wall which blocks schools from offering instruction in line with the instructional goal identified by Rayner et al. (2001) and in accordance with the principle of backwards design:

We can't expect students to learn how their writing system works until teachers receive training and resources that accurately explain the basic principles and conventions that govern that writing system.

Click this link for a WordWorks article addressing the interrelation of Structured Word Inquiry and Understanding by Design in more detail.

Notice how this instructional planning is already integrated into the Structured Word Inquiry curriculum developed at the International School of Beijing as shown in the excerpt included below.

Strand-Specific Enduring Understandings

	Etymological EU	Morphological EU	Phonological EU
EC - Gr 2	The spelling system evolved to represent the meaning of the already existing oral language.	Morphemes (bases and affixes) are units of meaning that combine to build words in ordered, understandable ways. Word families are groups of words connected in meaning through a common base.	Units of speech sounds combine to form spoken words in ordered, understandable ways. A single letter can often represent more than one phoneme (speech sound). One phoneme can often be represented by more than one letter (digraph or trigraph).
Gr 3- Gr 5	The English language and its spelling system have evolved with influences from many languages, including direct borrowing of words.	Word families are connected in meaning through complex, ordered structures.	Understanding phonology strengthens the understanding of word meanings and spellings. Graphemes are 1, 2 or 3 letter units within morphemes; their primary job is to represent phonemes.

Developed by the Word Work Warriors revised jh/fhs/pb sept2010 International School of Beijing

Integration with script:

Use instruction of script to develop automaticity with recognizing and producing graphemes and morphemes during reading and writing.

These examples are clearly not from kindergarten. But as soon as we teach children a script, why not use it to build awareness of these structures. See this page for more. For those with Real Spelling, consider Chapter J on "Real Script" as required reading -- and look forward to the upcoming Tool Box 2 resource on this topic.