Chapter Four: Structural Awareness Across the System

The Word Sum is to Word Structure as the Bubble Map is to Sentence Structure

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Unlocking Meaning Through Structure

Why is it that some students are able to intuitively make sense of and adopt the framework of the English language system, while others struggle persistently throughout their schooling to become fluent readers and writers?
We have come to realise that an important type of cognitive awareness is often missing for these students. The terms phonological awareness, phonemic awareness, morphological awareness, and print awareness are mostly in the mainstream now. That is to say, the average educator will have a basic understanding of what these are and how they impact literacy learning. However, there is another very important awareness that is often overlooked by teachers: structural awareness. Indeed, during the writing of this book, we became acutely aware of how even we had underestimated the importance of structural awareness for learning.

Structural awareness shifts our cognitive focus from memorising isolated facts to understanding the underlying patterns and frameworks that organise information. Structural awareness has several core benefits for learners:

1. Being able to perceive the relationships between ideas within a topic, and being able to discern the rules that govern those relationships allows students to store, retain, and retrieve information more effectively.
2. Being aware of structure allows learners to break complex ideas into manageable chunks and to use those chunks in meaningful ways.
3. Being able to build a structural framework within one domain allows students to more easily transfer that understanding to different domains or more complex tasks.
4. Being aware of their internal thought architecture helps students to monitor their own learning more effectively.

Since this book is about syntax, we have primarily focused on the knowledge and tools needed to build structural awareness at the sentence level, but we have also incorporated some word-level structural awareness to play a supporting role in building literacy skills for students. In fact, it was our work at the word-level, through Structured Word Inquiry, that increased our own awareness of the important role that structure plays at all levels of the English writing system. We began to see that the key to unlocking literacy is teaching our students to look below the surface of every word, sentence, and text they read and write, and to map the structure that lies beneath.

So we will take a moment to examine this idea of structure at all three levels of literacy as well as how they relate to and support each other.

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Structure at the Word Level

Structural awareness at the word level is about building recognition of the morphemes and graphemes that lie beneath the surface orthography of a word. Chunking letters together as graphemes and graphemes together as morphemes helps to reduce cognitive load. Instead of processing words letter by letter as an arbitrary sequence to be memorised, we can conceptualise graphemes based on their function within the word and its family, and we can use the meaning that lies within morphemes to make those larger elements stickier for memory.
When we start with a whole word and analyse it for its parts, we are using what we know about these graphemes and morphemes to make the word more digestible.
An analytic word sum requires us to notice affixes, peel them off, isolate the base element, and account for any changes that must be shown on the right hand side of the analysis.

By thinking in the opposite direction, we can synthesise the whole from its parts. We start with the base element, add a suffix that suits our grammatical use of the word, add a prefix that adds to the meaning of the word, and make any adjustments required by our orthographic conventions before rewriting the parts as a whole.

The word sum is essentially a test. It allows us to check our structural hypothesis against a set of rules and conventions and find evidence that either supports or disproves our assumptions. It is a self-correcting mechanism for the student and for the teacher. Writing out a word sum brings any flaws in our thinking to the surface where they can be examined and revised.

We can see that <-ing> is a suffix and that the base element of “rewiring” is <wire>, even though that single, final, non-syllabic <e> is no longer visible in the word. This enables us to avoid misconceptions such as seeing the letter string, <ring>, inside the word ‘rewiring’ and misidentifying it as a morphological unit. Similarly, in recognising the <re-> as a prefix, the student is less likely to misidentify the <ew> letter string as a digraph.

A word sum does not have to represent a complete analysis of a word; only an accurate one. Eg. <rewire + ing> and <re + wiring> are both correct, if incomplete, analyses of the word <rewiring>.

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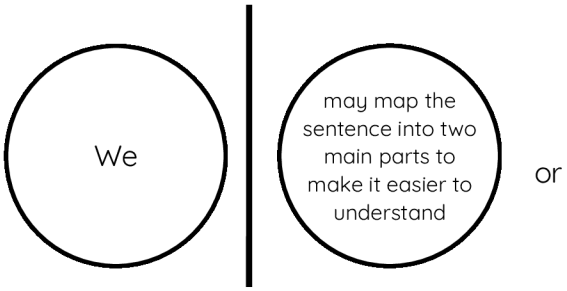
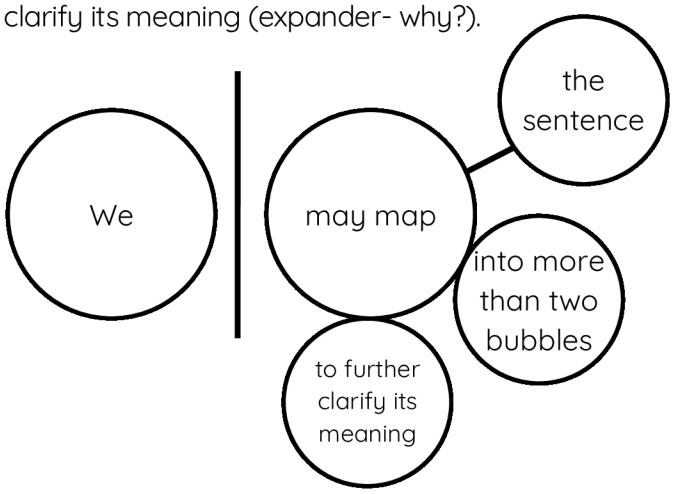
Structure at the Sentence Level

Sentences, too, have structure: various combinations of phrases and clauses and their constituent elements such as subjects, predicates, objects, expanders, and describers. The tool that we have developed to represent the elements within a sentence (the “sentence sum”, if you will) is the BubbleMap. And just like a word sum, a BubbleMap does not have to represent a complete analysis of the sentence; only an accurate one! Each additional bubbled element answers a question, illuminating both the sentence’s structure, and the meaning behind the words.

We (subject) / may map the sentence into two main parts to make it easier to understand (complete predicate).



We (subject) / may map (predicate) / the sentence (direct object) / into more than two bubbles (expander - how?) / to further clarify its meaning (expander- why?).



We can use a BubbleMap to analyse the structure of a sentence that we have read but perhaps not understood completely. The sentence already exists as a whole, and the BubbleMap allows us to peel off the expanders and describers that add detail and nuance to the sentence’s core meaning. Understanding a sentence’s structure allows us to comprehend its meaning fully. We can also use the BubbleMap for the act of synthesis. The student can start with the kernel sentence, the base element of the sentence, and flesh that out by adding expanders and describers to communicate their ideas more precisely. The BubbleMap is the scaffold for organising those ideas, and making their hierarchy and their connections more explicit. The BubbleMap is a chance to build a hypothesis about the structure of a sentence. If we have made an error in our thinking about the relationships between the structures, the map will show us where we have gone wrong. The map only “works” when we have understood the sentence structure and the relationships between all of its parts.

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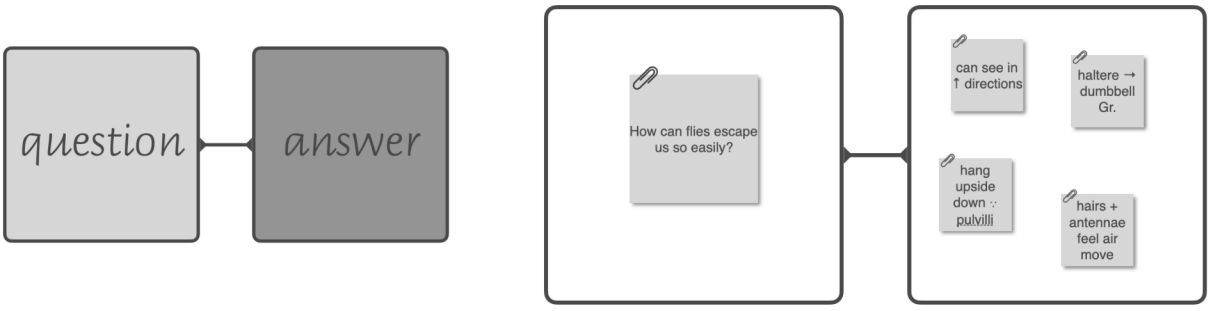
Structure at the Text Level

We can extend the idea of structural awareness to the text level as well. You may have noticed that when your students read a complex text, they are unable to identify the main ideas, connected ideas, causal relationships, or sequenced events. It is challenging to organise information if you don't have a structural framework to use as a mental guide. Building this structural framework is very difficult for some students–particularly those with additional learning challenges. When students are offered instruction that makes text structure explicit, they are able to use that structural awareness to identify the core information in a text and organise it in a way that makes it recognisable, memorable, and retrievable. This analytic thinking at the text level encourages students to pull together and activate all their knowledge and understanding from both the word level and the sentence level.

Additionally, text innovation is clearly a common roadblock for students. Writing is a complex, intellectually demanding task. Students must navigate several potential cognitive bottlenecks as they move through writing tasks from the first ideas through to the finished work. Using visible structural frameworks as a way to organise and manage information helps students to shift some of the cognitive load to the earlier planning stages of the writing process. This will then free up some thinking real estate and give students the best chance of getting their thoughts and ideas down onto paper clearly and precisely.



Tying It All Together

Structural awareness is the silver thread that binds the whole system together. It makes our invisible thinking visible, concrete and easier for us to make sense of. It enables us to communicate our understanding to others using a shared point of reference. We cannot assume that students will notice structure, and we cannot expect them to recreate it for themselves. Structural awareness needs to be explicitly taught and intentionally built into every lesson at every level.

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