Schema

What sense and meaning you derive from this graphic depends on your schema.

- Is it a piece of abstract art?
- Is it an iris magnified?
- Is it a chemical reaction?
- Is it a fractal?

Schema refers to the connections among concepts, beliefs, expectation, and information that each person establishes through their own experiences. We store such knowledge and use it to help us make meaning, engage text, and incorporate new knowledge into our schema database. In reading, our knowledge and schema are built around world knowledge, text knowledge, discipline knowledge, and language knowledge.

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
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</thead>
<tbody>
<tr>
<td>World knowledge</td>
<td>Our experiential knowledge that is gained through activities, interests, and life experiences, etc.</td>
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<tr>
<td>Text knowledge</td>
<td>Our knowledge of textual structures and organizations that may include genre, sentence patterns, format, headings, signal words, literary devices, etc.</td>
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<tr>
<td>Discipline knowledge</td>
<td>Discipline specific knowledge that has been acquired as shown through interpretation or how ideas and information is structures within the discipline.</td>
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<tr>
<td>Language knowledge</td>
<td>The knowledge about how structure and meaning of words and sentences put forth ideas and employ language and its structures to make meaning.</td>
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As professionals, we can make an analogy about the relevance of schema by thinking about creating a presentation for a specific “audience”. If we all are field experts, then our assumptions and gaps in information provided will be much difference from making a presentation to student coming into the first quarter of a two-year program. These gaps in knowledge need to be built up and fostered. These gaps can be uncovered through metacognitive conversations whereby the faculty discover the mismatches between the students’ schema and the structure, concepts, and linguistic presentation of concepts and information in the texts they are to read for coursework.

As instructors using WestEd’s Reading Apprenticeship® framework, we faculty need to allow our students time to discuss their confusions, to relinquish and revise or retool their misleading or limited schema, and to provide models for learning new schema through experiences that are relevant to the field. This is a skill that faculty who are field experts can and should be scaffolding for their students.
When can we activate and use schema to develop powerful readers?

- As we ask students to read their texts, we need to model predicting about a topic to get a sense of what schema are in place, use context-building tools such as related materials on a topic, and then jumpstart new words and ensure mastery of text structure.

- Apply the use of graphic organizers for gathering, organizing, and exploring key ideas, words, and text structures. A journal article varies greatly from a formal textbook definition of a specific topic.

- We must ask students to trace back through their development of schema to reflect on what they once knew and how the new knowledge contributed to creating new connections and understanding. This leads to applying the new schema to other texts and applications.

Of note in this discussion on schema is that Reading Apprenticeship classrooms do more than merely activate prior knowledge. They use prior knowledge as the stepping stones for bridging the gaps of misinterpretations, misreading, misunderstanding, and for creating new ways of looking at and applying schema. This is what “making the invisible visible” looks like in a Reading Apprenticeship classroom. To be effective, faculty must anticipate the schema needed to tackle a difficult text and then choose appropriate ways to scaffold, present, connect, and build new schema to previously held schema.

Some examples of classroom techniques that foster schema development:

- Taking a text that is not part of a specific course and applying the schema learned in class to the text. For example, a cartoon about a life situation and the text on Maslow's Hierarchy or a scenario about a distraught driver and a troubleshooting guide.

- Create a list of ideas that are relevant to a topic and ask students to mark “+” or “−” if they agree or disagree with such ideas.

- Use a table or journal to document changes in schema. “I once thought...now I know...” or “Key concept + previous understanding + new ideas + revised understanding.”

- Build new schema by marking textual signals and structures which helps students “see” how language plays a vital role in their understanding and interpretation. Another way to build new schema is to teach test as genre. By dissecting test questions, students learn how to interpret their reading materials in a new way. They will learn the signposts in test questions and build new understandings through metacognitive conversations about the test format, structure, and how it connects back to their texts.

For More Information

For more information on this topic, visit the RTC Library’s LibGuide about Reading Apprenticeship® and RATs at [http://libguides.rtc.edu/rats](http://libguides.rtc.edu/rats). At the LibGuide, click on the Reading Apprenticeship Routines drop down menu, and then on the Schema option.