

What is the Science of Reading?



The Science of Reading refers to our collective understanding of how we read based on thousands of studies spanning 50+ years in the modern era. It is a complex, interdisciplinary topic spanning the fields of neuroscience, linguistics, psychology, and education, among others.



The most important takeaway is that reading is not a natural cognitive process. It's not something we learn by instinct. It must be explicitly taught and reinforced, preferably from an early age when our minds are better at building the necessary bridges between sight, speech, and meaning.

The Five Essential Components

- ▶ Phonemic awareness
- ▶ Phonics
- ▶ Fluency
- ▶ Vocabulary
- ▶ Comprehension



Language Comprehension

Background Knowledge

facts, concepts, etc.

Vocabulary

breadth, precision, links, etc.

Language Structures

syntax, semantics, etc.

Verbal Reasoning

inference, metaphor, etc.

Literacy Knowledge

print concepts, genres, etc.

Word Recognition

Background Knowledge

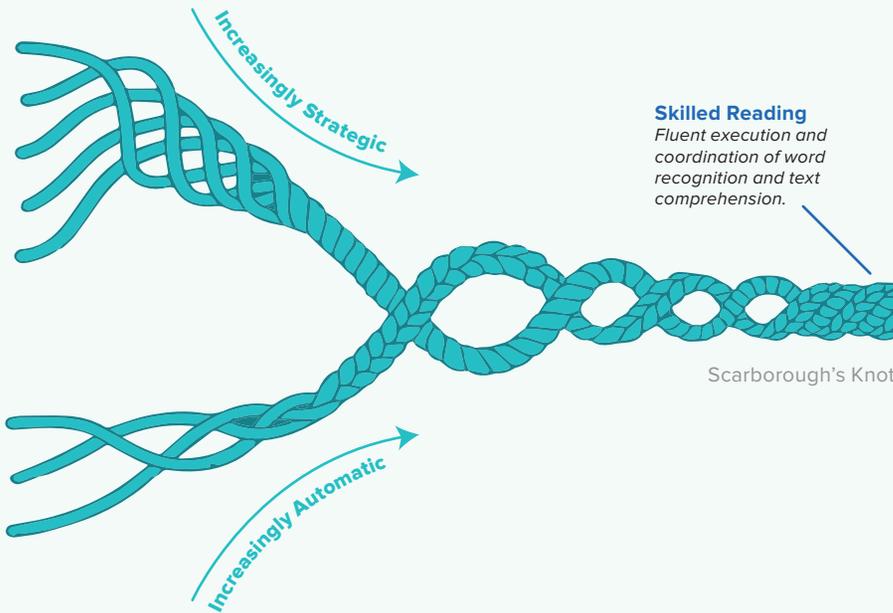
facts, concepts, etc.

Vocabulary

breadth, precision, links, etc.

Language Structures

syntax, semantics, etc.



Skilled Reading

Fluent execution and coordination of word recognition and text comprehension.

Scarborough's Knot



The Simple View of Reading

One approach that has consistently stood up to scientific scrutiny is the Simple View of Reading (Gough & Tunmer, 1986). This is the idea that reading comprehension is the product of two components—word recognition and language comprehension. The ability for students to recognize and decode written words is only half the battle—students must also have the background knowledge, vocabulary, and conceptual understanding of language necessary to give meaning to those words.

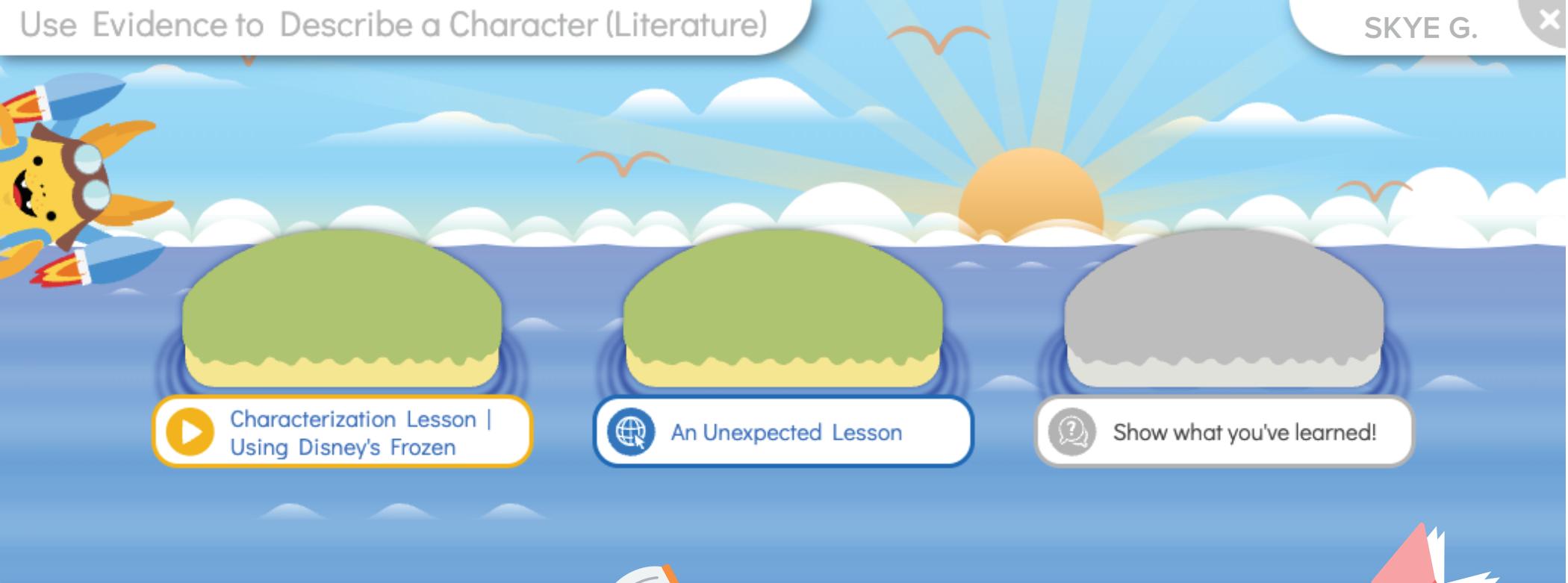


Explicit and Systematic Instruction

This term appeared in the National Reading Panel's report to Congress (2000) and has become a cornerstone of effective literacy frameworks in the years since.

Here's what it means:

- ◆ **Explicit:** Direct instruction, clear modeling, no ambiguity. This is in contrast to previous schools of thought in which students were asked to imply letter-sound-meaning connections while reading, with less time spent on explicit instruction (especially in phonics).
- ◆ **Systematic:** Purposeful lesson sequencing, developing requisite background knowledge, new concepts build on previous instruction. Systematic reading instruction means strategically weaving in the five key components of phonemic awareness, phonics, fluency, vocabulary, and comprehension through a holistic approach that continuously builds on itself.



How eSpark Aligns

Explicit and Systematic Instruction

Students begin every Quest with a framing video, in which eSpark clearly defines the purpose of the quest and introduces the new concept through concise, direct instruction. That purpose is reiterated multiple times throughout the Quest.

eSpark's learning designers are intentional about how our reading Quests are sequenced. As a result, each Quest builds on prior learning and students are more likely to possess the requisite skills and knowledge before being presented with a new concept.

The Five Essential Components of Reading

eSpark's early reading instruction includes an intentional balance of all five. Through a combination of Small Group Skills and independent Quests, teachers can easily identify gaps and differentiate instruction to fill areas of need for any student.

Building a Love of Reading

Early reading instruction can be tedious, and the work involved has the potential to turn students off from reading. eSpark's play-to-learn approach keeps students engaged and having fun during these critical stages, building the knowledge without diminishing the spark.

The Students' Choice

New to eSpark in 2023, Choice Texts represents a revolutionary approach to early literacy based on the evidence-based principles of student-centered learning. Every student gets to experience unique, one-of-one reading lessons based on their interests.



Read To Me Make Easier Highlighter Comment

Title: "Fonix and the Galactic Goblins"

Once upon a time, in a far-off galaxy, there was a clever little alien named Fonix. His home was the vibrant planet of Zephyrion, a place where the flowers bloomed in a thousand colors and the rivers glowed with stardust. Fonix was known for his quick wit and the twinkle in his three eyes that hinted at a mind always at work. He was not the strongest or the fastest, but he was definitely the smartest.

One day, a group of mischievous goblins from the neighboring galaxy of Goblia started causing trouble on Zephyrion. They stole the Sparkling Starfruits, the source of Zephyrion's light and energy. Without the Starfruits, the planet would slowly fade into darkness. The Zephyrions were terrified, but Fonix, with his clever mind and brave heart, decided to take matters into his own hands.

With his trusty spaceship, Fonix set off on a daring adventure to the galaxy of Goblia. The journey was filled with perilous asteroid storms and mysterious black holes, but Fonix navigated through them all with his quick thinking. He knew that the safety of his beloved planet rested on his shoulders.

As he landed in Goblia, he was met with the sight of the goblins, huddled around a fire, feasting on the glowing Starfruits. Their green bodies glowed eerily in the dim light. Fonix knew he couldn't fight them all, but he had a clever plan. He rummaged through his spaceship and found a box of Glittering Glowberries. They looked exactly like Starfruits, but they were incredibly sour.

With a mischievous grin, Fonix approached the goblins. "Greetings, noble goblins," he said, his voice echoing in the silent night. "I come in peace. I bring you a gift, the rarest and sweetest fruit from Zephyrion, the

How it works

With **Choice Texts**, students build their stories and informational text passages in real time by selecting from a list of options or entering free-form text when prompted. These decisions span everything from the overarching genre/theme of the text to plot points, character traits, and detailed subtopics. The result is a playfully personalized passage at the heart of the standard-aligned lesson.

After the text has been generated, the student's trusted companion, Rocky, provides prompts based on the lesson's learning target. This gives students a chance to practice with something of their own making, resulting in significantly higher engagement than static, one-size-fits-all text.

Real-time feedback and remediation

The Rocky character is not just used to deliver formative assessment within the lesson, it also serves as a "guide on the side," providing scaffolding for the student with real-time feedback, hints, and remediation. This cooperative learning environment adds another layer of fun while serving a critical instructional purpose.

