



10 Maxims

What We've Learned So Far About How Children Learn to Read

By Reid Lyon

Over the last 50 years, there's been a vast amount of research about reading development, drawing on insights from neuroscience, psychology, speech-language pathology, linguistics, and education. I'm sometimes asked to summarize, in plain language, what we've learned so far. These 10 Maxims represent my best attempt at doing that.

This may seem like a fool's errand, because no set of maxims can fully convey the scope or nuance of thousands of studies. I hope nevertheless that these Maxims might be useful in crystallizing some of the most essential findings. They live on ReadingUniverse.org as a reminder that understanding how the brain processes language for reading and writing must be grounded in scientific research, and that instructional practices should be considered evidence-based only after they have been rigorously tested and found to improve results significantly in real-world settings.

We published the original Maxims in 2023 and we've refined them now to accomplish three primary goals: First, to emphasize explicitly the primacy of language in becoming a skilled reader and writer. Second, to recognize that language development begins in utero, well before school begins, and accumulates over time, shaping reading acquisition, academic achievement, and broader life outcomes. And third, to remind all readers of the Maxims that the converging science is applicable for *all learners*. There is now additional research to validate instructional approaches that best support those who speak languages other than [General American English](#) at home. These variations in language are assets that actually leverage learning.

These Maxims reinforce for us the converging, generalizable research demonstrating that reading is a language-based skill that develops along a continuum over time. Skillful reading depends on the explicit and systematic mapping of speech to print and the increasing ability of students to derive meaning from what they read. As research advances, the Reading Universe team of expert advisers will continue to monitor and update the Maxims as needed.



The overarching message is that learning to read is a complex process involving multiple abilities, skills, and knowledge. Each is essential, but none is sufficient on its own.

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With that as prologue, here are my 10 maxims.

1. Language development, beginning with speaking and listening skills, is the foundation for learning to read.
2. Language development begins in utero. Therefore, literacy development is rooted in early social interactions and experiences that include regular exposure to oral language and print. Strong roots tend to produce strong readers.
3. All good readers are good decoders, because decoding is the on-ramp for word recognition. Decoding should be taught until children can accurately and independently read new words. Decoding depends on well-developed oral language, phonemic awareness, and accurate letter-sound associations.
4. Fluent readers can instantly and accurately recognize most words in a text. They can read with expression and at an appropriate rate for their age. Reading fluency both depends on comprehension and actively supports comprehension.
5. Comprehension—the goal of reading—is a language-based process that draws on multiple skills and strengths, including a solid foundation of vocabulary and background knowledge.
6. No single instructional design can serve all students. Use screening and progress-monitoring data to provide targeted, differentiated instruction matched to individual strengths and needs.
7. Direct, systematic instruction helps students to develop the skills they need to become strong readers. Indirect, three-cueing instruction is unpredictable in its impact on word reading and leaves too much to chance.
8. All of these maxims apply directly to English Learners/Emergent Bilinguals when they are learning to read in a language they already know. When learning to read in English, a language they are simultaneously learning to speak and understand, these students need support and instruction to become proficient in English as they are learning to read and write it.
9. Students who speak languages or dialects other than General American English deserve support from educators who honor the students' home language, view their language variations as assets, and expand their opportunities to engage with General American English text.
10. To succeed as readers and writers, students need to integrate many components of word-level skills (including phonemic awareness, decoding, and word recognition) with higher-level language and knowledge systems over time.

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