



# BOOST OUTCOMES WITH THE BIG FIVE

**How to change the trajectory of student learning  
through the science of reading.**

Reading comprehension is a skillset that students need for current learning demands and for lifelong personal growth. A [report](#) from the Annie E. Casey Foundation finds that students with proficient literacy skills accomplish more throughout their life in terms of graduating high school, pursuing higher education and obtaining meaningful work.

“Reading is not a school skill. It is now a life skill, which opens doors, and can change the trajectory of the student’s life,” says Wytonia Montgomery, a strategic professional development specialist for [Istation](#), a platform that develops curriculum, instructional resources and assessments for reading.

So how do we do this? [Research](#) from the National Reading Panel indicates there is a true science to reading instruction, based on five core elements known as the “Big Five.” This SmartFocus report

examines this method and how applying it can improve students’ reading comprehension and growth.

## THE BIG FIVE APPROACH

The National Reading Panel was appointed in 1997 by Congress to examine research and determine the most effective methods for reading instruction. The NRP reviewed more than 100,000 quantitative studies over a three-year period and concluded there are five essential components to reading. These components — referred to as the “Big Five” — became the basis for the federal literacy policy of No Child Left Behind enacted in 2000. They are: phonemic awareness, alphabetic principle, fluency with text, comprehension and vocabulary. Each step builds on the next.

Victoria Locke, a research director at Istation, praises the Big Five model.

“This is the best approach because it scaffolds, and the skills build upon one another,” Locke says. “The National Reading panel found that children with greater phonemic awareness were better able to apply the alphabetic principle, and the use of phonics in the early grades helped students learn to read faster.”

## THE BIG FIVE IN PRACTICE

What does effective reading instruction look like under this model? It starts with curriculum, says William Fahle, senior vice president of development research at Istation. The right reading curriculum will follow the framework of the Big Five, he says.

“It is possible to create curricula which focuses on specific areas of the Big Five and deliver that to the students who need it on an individual basis,” Fahle explains. “Students learn better when the material is appropriate to their level of understanding.”

Istation Reading is an adaptive curriculum that leads students through the sequence of the Big Five. The platform includes a full library of tools and lesson plans aimed at addressing each phase of development. Students begin by mastering phonemic awareness through activities that teach them to identify, segment and blend sounds. Next, they learn the letters — including sounds — of the alphabet and become proficient in letter knowledge and decoding. After that, they move onto developing fluency with text and building reading comprehension. The final stage focuses on growing student vocabulary.

The goal of the approach — and platform — is to nurture reading skills and establish habits of learning, Montgomery says.

“The student continues to learn, acquire vocabulary, critical thinking skills and becomes a proficient reader who explores a freedom to learn,” Montgomery states. “Our ultimate goal is to develop competent learners ready for college and the workforce.”

## ASSESSMENT AND THE BIG FIVE

Another component critical to reading instruction: assessment. Effective instruction should include assessments that address each area of the Big Five. These assessments yield valuable data that will help guide instruction and intervention.

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Andi Diaz, Istation senior digital content specialist and former elementary and middle-school reading teacher, outlines a framework for using data and assessment.

**COLLECT.** “Data can be collected in different ways and at different times during the school year,” Diaz says in an [article](#) for Istation. Istation’s Indicators of Progress (ISIP™), a formative assessment platform, lets teachers establish baselines and track student growth throughout the year. ISIP’s assessments are automatic and occur monthly. “Progress-monitoring assessments provide teachers with usable student data on the individual and/or classroom level,” Diaz says.

**MEASURE.** Assessments allow teachers to measure skill development and create the right intervention and instructional paths for each student, Diaz adds. In another [article](#), she talks about Istation’s [Oral Reading Fluency](#) assessment — with speech-recognition technology — that measures students’ reading proficiency through the oral reading of content. The system records students as they read and archives the recordings for future review. Detailed reports give educators insight on areas of progress as well as gaps where students need additional support.

“Measuring student progress drives classroom instruction and gives a clear picture of how teachers need to spend instructional time moving forward,” Diaz says.

**ACT.** Put the data to use right away, Diaz recommends. “Acting on the data gathered in a timely manner ensures the best results,” she says. Istation’s real-time reporting tools deliver personalized data profiles that can help teachers tailor instruction and intervention. “Let data inform daily instructional strategies and drive small-group intervention needs,” she says.

## OUTCOMES OF THE BIG FIVE

Foundations for reading begin in the early grades. The trajectory shifts in the later grades when a large developmental leap occurs and students move from learning to read, to reading to learn. Instruction should follow the movement of this shift, Montgomery says.

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## DATA-DRIVEN SUCCESS AT JEFFERSON ELEMENTARY SCHOOL

When educators [at Jefferson Elementary School](#) in Jerome, Idaho, wanted to improve overall reading success for students in kindergarten to third grade, they decided to focus on Istation data provided for one component of the Big Five: vocabulary.

Teachers started by running a baseline assessment of vocabulary skills using Istation’s Indicators of Progress and then came together for weekly meetings to determine how to best address low vocabulary scores. Tapping research-based practices driven by data from the Istation platform, the teachers designed intervention lessons.

In just one school year, vocabulary scores for all four grades saw significant improvement. The percentage of first-graders who were considered proficient in vocabulary grew from 28% to 48% from the beginning to the end of the school year. Second-graders rose from 43% to 65%, third-graders from 45% to 58% and kindergartners from 20% to 43%.

“Focusing on improving vocabulary proficiency scores schoolwide was important to the whole staff, and their collaboration around routines and strategies made a big difference for our students,” said Angie Brulotte, principal of Jefferson Elementary School. ■



Based on current research of how the brain acquires language, it is imperative that instructional practices parallel the Big Five that provide the building blocks for the foundations of early literacy,” she says. “Each piece or pillar of the model is essential to each student’s academic development.”

Students who receive effective instruction during the early grades gain skills and improve readily. By third grade, the goal is for students to be proficient and reading at, or above, grade level.

“Research shows that reading skills at third grade predict how well they will do in eighth grade, which is also a predictor for high school success,” Locke says. “Students who are not reading well in third grade are more likely to drop out of high

school, while students reading above grade level in third grade are more likely to enroll in college.”

Other research shows even more dire consequences, Locke notes. “About two-thirds of students who are not reading proficiently by fourth grade end up either on welfare or in jail in their adult years,” she says. “Therefore, changing the trajectory of reading instruction can help students have better outcomes across [their] life span.”

Montgomery concurs. Honing reading skills helps students build confidence and embrace the challenge and success of learning.

“If you do something well, you normally repeat it over and over. When the reading process becomes fluid or effortless, the student experiences success in reading and therefore enjoys the process,” Montgomery says. ■



“ Research shows that reading skills at 3<sup>rd</sup> grade predict how well they will do in 8th grade, which is also a predictor for high school success. ”

## ABOUT ISTATION

Istation's computer-adaptive intervention and instruction for [reading](#), [math](#), and [Spanish literacy](#) helps thousands of schools predict student success and more. Research-based and aligned to [state standards](#), Istation's computer-based diagnostic and screening programs, progress monitoring, and interactive lessons provide formative data that give teachers the insight to prioritize interventions, differentiate instruction, and reveal student potential.

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