

Scientifically Based Reading Research

In the new law “No Child Left Behind,” the phrase “scientifically based research” appears one hundred and eleven times. Clearly, the new law requires educators to use research to guide planning and instruction.

The new law states that Title I programs must “use effective methods and instructional strategies that are based on scientifically based research that strengthens the core academic program of the school” (section 1115,c(1)c).

What is scientifically based research?

According to “No Child Left Behind,” scientifically based reading research is research that applies rigorous, systematic and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties. This includes research that:

1. Employs systematic, empirical methods that draw on observation or experiment;

A reading program, using scientifically based reading research, should meet the following rigorous standards:

- The program has a solid theoretical or research foundation that is grounded in the scientific literature.
- Program effectiveness has been shown through an experimental design that includes experimental and control groups created through random assignment or carefully matched comparison groups.
- Program effectiveness has been demonstrated through research that clearly describes how, by whom, and on whom the research was conducted.

2. Involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;

A reading program, using scientifically based reading research, should meet the following rigorous standards:

- Research that demonstrates program effectiveness was designed to minimize alternative explanations, such as through a series of experiments that consistently support a given theory while collectively eliminating the most important competing explanations.
- The overall conclusions of program effectiveness are consistent with research observations.
- Research that demonstrates program effectiveness presents convincing documentation that the observed results were the result of the intervention.
- Research that demonstrates program effectiveness clearly defines the population studied (student demographics such as age and poverty level,

as well as cognitive, academic and behavioral characteristics; school attributes such as grade levels, size and racial, ethnic and language minority composition).

- Research that demonstrates program effectiveness clearly describes to whom the findings can be generalized.
 - Research that demonstrates program effectiveness provides a full description of outcome measures.
3. Relies on measurements or observational methods that provide valid data across evaluators and observational methods that provide valid data across evaluators and across multiple measurements and observations; and

A reading program, using scientifically based reading research, should meet the following rigorous standards:

- Gains in student reading achievement have been sustained over time.
 - Gains in students reading achievement have been confirmed through independent, third-party evaluation.
 - Program effectiveness has been demonstrated through multiple investigators in numerous locations.
 - Research that demonstrates program effectiveness describes the program in sufficient detail to allow for replicability.
 - Research that demonstrates program effectiveness explains how instructional fidelity was ensured.
4. Has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparable rigorous, objective and scientific review.

A reading program, using scientifically based reading research, should meet the following rigorous standards:

- Unbiased individuals who were not part of the study have carefully reviewed the research that demonstrates program effectiveness.
- Program effectiveness findings have been subjected to external scrutiny and verification.

According to “No Child Left Behind,” what are the essential components of reading instruction?

Reading instruction means explicit and systematic instruction in the following:

- a. Phonemic awareness
- b. Phonics
- c. Vocabulary development
- d. Reading fluency, including oral reading skills
- e. Reading comprehension strategies

For more information on SBRR, check out the USDE website
<http://www.ed.gov/nclb/methods/reading/edpicks.jhtml?src=ln>.