Section 1208 (6) Definitions in Title I, Part B, Subpart 1 of the Elementary and Secondary Education Act of 2002

In this subpart:

(6) SCIENTIFICALLY BASED READING RESEARCH.—The term scientifically based reading research means research that—

(A) applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties;

and

(B) includes research that—

(i) employs systematic, empirical methods that draw on observation or experiment;

(ii) involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;

(iii) relies on measurements or observational methods that provide valid data across evaluators and observers and across multiple measurements and observations; and

(iv) has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review.
Reading Recovery has a strong scientific research base. More than 1,000,000 children in the United States have been taught by Reading Recovery teachers since the intervention was introduced in North America in 1984. As of June 2001, Reading Recovery was in nearly one-quarter of the nation’s public school districts with first-grade students. The expansion of Reading Recovery and the continued success of the students can be attributed to Reading Recovery’s sound scientific research base.

Part A of Definition

research that applies rigorous, systematic, and objective procedures to obtain valid knowledge relevant to reading development, reading instruction, and reading difficulties

The structure and design of Reading Recovery are consistent with a large body of substantial research on how children learn to read and write. Marie Clay’s basic research on reading and writing behaviors of young children began in the 1960s. She began to research reading difficulties through a series of studies in the 1970s that led to the development of Reading Recovery (including field trials, follow-up studies, replication studies, monitoring studies, and subgroup studies).

Change in Reading Recovery is a deliberate, careful, ongoing process based on continuous research. Refinements in practice are based on current research in language and literacy learning and teaching, as well as research and evaluation directly related to the program.

A key premise of Reading Recovery is that early intervention in first grade is critical. This is supported by longitudinal research (Juel, 1988) that shows children who fall behind in Grade 1 tend to remain behind in later school years.

The research of Vellutino et al. (1996) offers support for one-to-one early intervention for children with reading difficulties. The Committee on the Prevention of Reading Difficulties in Young Children (Snow, Burns, & Griffin, 1998) also cites the importance of prevention and one-to-one intervention.

In addition, numerous studies have examined the effectiveness of Reading Recovery for children with reading difficulties. A notable example is the rigorously controlled experimental study of randomly assigned groups in 40 elementary schools (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994). Reading Recovery subjects performed significantly better than other treatment and comparison groups on all measures. Essential differences were related to one-to-one instruction, the lesson framework, and teacher training.

The National Reading Panel identified five essential components of a balanced instructional program in reading: phonemic awareness, phonics instruction, fluency instruction, vocabulary instruction, and text comprehension instruction. Reading Recovery includes all five components within the lesson and is consistent with the school’s core instructional program. Clay’s systematic research provides the scientific knowledge base for the design of the Reading Recovery lesson (Clay, 1979, 1993b).

Part B(i) of Definition

research that employs systematic, empirical methods that draw on observation or experiment

Research on Reading Recovery and Descubriendo la Lectura (Reading Recovery in Spanish) uses systematic, empirical methods to collect data annually on all children receiving the service. Data collection, analysis, and assessment are standardized nationally. Data are also collected on a random sample of grade level peers to provide a comparison group.

An Observation Survey of Early Literacy Achievement (Clay, 1993a) is used as a pre-test for selection purposes, a measure for making exit decisions, and an end-of-year test to examine change over time. Stanines are developed for three points in time, and each task has established reliability and validity measures. The Observation Survey is widely used by researchers and by practitioners in schools.

The Observation Survey is an empirical observation instrument that yields five scores on measures of essential factors leading to effective literacy. Extensive training is provided in the systematic, objective procedures specified for the administration, scoring, and analysis of this instrument.

Observational data are also collected daily using systematic and controlled procedures. Teachers use this information to make teaching decisions for each child.

Teachers are specially trained for a full academic year (six semester hours of graduate credit) in the use of observation and in research-based procedures for working with individ-
ual children. Teaching is based on systematically collected data.

Strong professional development continues after the initial training year. Research supports the importance of ongoing development.

Descubriendo la Lectura (Reading Recovery in Spanish) meets the same criteria for systematic and controlled empirical methods that draw on observation. There are very few instruments available to assess Spanish-speaking learners; the Observation Survey is available in Spanish.

**Part B(ii) of Definition**

research that involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn

The goal of Reading Recovery and Descubriendo La Lectura is to dramatically reduce the number of learners who have extreme difficulty with literacy learning and the cost of these learners to educational systems. This goal calls for Reading Recovery children to make faster than average progress so they can work within an average group setting in the regular classroom.

Hypotheses that are tested annually include

- Children who successfully complete Reading Recovery will perform on literacy measures within an average band of their classmates who did not need the program. This performance gives them greater access to classroom learning.
- Children who successfully complete Reading Recovery will continue to make gains in text reading and writing vocabulary after leaving the program and continue to perform competitively with peers who were not initially at risk.

Annual data analyses test these hypotheses and reveal that a large majority of children with full programs do make accelerated progress and work within the average of their classrooms; they also continue to make progress after leaving the program. Because these children were the lowest literacy achievers in the first grade in their school, we can verify the reduction of the number of children with extreme literacy difficulties.

Rigorous data analysis procedures are summarized below:

- The National Data Evaluation Center (NDEC) collects data on all children served and provides annual reports of quantitative data. Nine research questions guide data analysis, all of which test program effectiveness and efficiency. Conclusions about program outcomes are based on the answers to these research questions, which yield information about the children served, the outcome status of each child, progress of all children on multiple literacy measures, comparison of Reading Recovery children with a random sample of their peers, classroom teacher perspectives of children’s literacy performance, information about retention and special education, analysis of time in program, etc. An annual report is published.
- Data from NDEC are provided for every site and district involved in Reading Recovery and Descubriendo la Lectura.
- Longitudinal studies answer questions about subsequent performance. Findings from two states and one district provide examples:
  - **Texas**: Two longitudinal studies (Askew et al., in press) followed children through Grade 4 and found that 80–85% of the children (originally the lowest-achieving first graders) who were successful in Reading Recovery in Grade 1 passed the fourth grade Texas Assessment of Academic Skills (TAAS) reading test. Preliminary findings in a third study show that more than 80% of Reading Recovery children for whom TAAS data were available (whether successfully discontinued or not) passed TAAS reading tests in Grades 4 and 5.
  - **Ohio**: A follow-up study (Hovest & Day, 1997) found that of 2,714 former Reading Recovery students, 71% passed the reading portion
and 75% passed the writing portion of the Ohio Fourth Grade Proficiency Test.

San Luis Coastal Unified School District, California: This school district examined subsequent literacy performance of former Reading Recovery students when they were in Grades 2, 3, 4, and 5 (Brown, Denton, Kelly, & Neal, 1999) using two standardized achievement tests. In most cases, more than three-fourths of the successful Reading Recovery children achieved test scores in the average or above average range on the ITBS and SAT9.

Again, because these children were the lowest literacy achievers in their first-grade classrooms, these studies demonstrate that Reading Recovery plays a role in dramatically reducing the number of children with extreme literacy difficulties.

Part B(iii) of Definition
research that relies on measurements or observational methods that provide valid data across evaluators and observers and across multiple measurements and observations

Reading Recovery uses systematic and simultaneous replication studies (Frymier, Barber, Gansneder, & Robertson, 1989) to document program outcomes for all children served, adhering to standardized methods, instruments, and time lines across all schools, school districts, training sites, and states. Replication is important because it provides evidence of accountability that is open to researchers and administrators. Assessments in Reading Recovery have been replicated for more than 1,000,000 children across time and location with remarkable consistency.

An Observation Survey of Early Literacy Achievement is used to measure gains across multiple measurements. This instrument has established validity and reliability. Data collected from multiple observers and evaluators include the following:

- Pre- and post-intervention assessments (student outcomes); follow-up assessment at end of year
- Pre- and post-assessment for a random sample of children in the grade-level cohort (to create an average band of performance)
- Reported perceptions of classroom performance of individual children by classroom teachers
- Decisions related to special education referral and placement and retention in grade level, using data and input from non-Reading Recovery school officials
- Information from members of Reading Recovery school teams to validate results, improve effectiveness, and make decisions about individual children
- Additional assessments selected by districts (optional)
- Reported perceptions of program effectiveness from parents, administrators, and classroom teachers (recommended)

Follow-up data are collected in many districts using standardized measures and scores on state assessments. For example, Texas longitudinal studies used Gates-MacGinitie reading tests and Texas Assessment of Academic Skills (TAAS) scores for reading and writing to provide multiple measures.

Part B(iv) of Definition
research that has been accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review

The following peer-reviewed research articles or research reviews offer support for various aspects of Reading Recovery. Please consult the Reading Recovery Review (Askew, Fountas, Lyons, Pinnell, & Schmitt, 1998) from the Reading Recovery Council of North America for a more complete list.

Selected Articles From Clay’s Basic Research


**Additional Selected Articles**


**Cited References**


**For More Information**

Information on the Reading First program can be found at www.ed.gov/offices/OESE/readingfirst/ReadingFirstGuidanceFINAL.pdf

To download RRCNA ESEA fact sheets, go to www.readingrecovery.org/sections/home/advocacy.asp