

**Models/Programs That Include
Instructional Methods That Have
Proven To Be Successful With Low
Achieving Students**

Technical Assistance Resource Document
Updated

Virginia Department of Education

Division of Instruction

April 20, 2001

Introduction

The revised *Regulations Establishing Accrediting Standards for Public Schools in Virginia* (SOA), effective September 28, 2000, require schools accredited with warning in English or mathematics to adopt and implement instructional methods that have a proven track record of success at raising student achievement.

8 VAC 20-131-310 B-E. Action requirements for schools that are accredited with warning.

- B. Any school that is accredited with warning in English or mathematics is expected to adopt an instructional method that has a proven track record of success at raising student achievement in those areas as appropriate.
- C. The superintendent and principal shall certify in writing to the Board that such a method has been adopted and implemented.
- D. The Board shall publish a list of recommended instructional methods which may be amended from time to time.
- E. Adoption of instructional methods referenced in subdivisions B and D of this subsection shall be funded by eligible local, state, and federal funds.

To help guide the identification and selection of models or programs that include instructional methods as provided in 8 VAC 20-131-310 B-E, the Board of Education adopted the following five criteria.

Criteria for Recommended Models/Programs

1. **Experience-based evidence of effectiveness:** Has the model/program been successfully implemented with low achieving students? Is there convincing documentation, through reliable measures or practical experiences before and after the intervention, that educationally significant improvement in student achievement occurred?
2. **Implementation:** Does the program explain the essential ingredients necessary to make the program fully operational, including estimates of the costs, with respect to time and money, of implementation?
3. **Replicability:** Has the model/program been successfully implemented with low achieving students in multiple locations?
4. **Correlation with or adaptability to the Virginia Standards of Learning in English or mathematics:** Does the content of the model/program correlate with the Virginia Standards of Learning in English or mathematics? Can the content of the model/program be adapted to support the Virginia Standards of Learning?
5. **Capacity for technical assistance:** Do the program managers have the capacity, in terms of technical assistance, to provide the staff development, consultation, and support necessary for successful implementation in a number of Virginia schools?

This resource document includes a list of instructional methods that research studies have shown have a high probability for enhancing student achievement. The document also includes charts that identify which of these instructional methods are incorporated in the board-approved models/programs for schools accredited with warning in English or mathematics. A description of each model/program and contact information is included in the resource document.

Instructional Methods Having A Strong Influence On Student Achievement

The following instructional methods were identified in a research study on teaching that was conducted at the Mid-continent Research for Education and Learning (McREL). The study conducted by McREL was designed to identify those instructional strategies that have the highest probability for enhancing student achievement for all students in all subjects at all grade levels. The methods listed here represent the nine categories of strategies that research and experience show have a strong influence on student achievement.

Category of Instructional Method	Content-Based Methods: Mathematics	Content-Based Methods: English
<p>Identifying similarities and differences Teachers require students to analyze two or more elements in terms of similarities and differences on one or more characteristics. Accomplished by comparing, classifying, creating metaphors, and creating analogies.</p>	<ul style="list-style-type: none"> • Use varied questioning techniques • Develop comparison charts • Use Venn diagrams 	<ul style="list-style-type: none"> • Use Venn Diagrams to compare texts, characters, authors • Develop comparison matrix • Use web or column format graphic organizers for classifying • Use Semantic Feature Analysis
<p>Summarizing and note taking Teachers require students to analyze information to determine important points for a summary and to synthesize information to take notes.</p>	<ul style="list-style-type: none"> • Direct instruction/lecture • Problem Solving • Mathematics journals (writing to explain mathematics thinking) 	<ul style="list-style-type: none"> • Two-column note taking • Summary frame • Student-teaches-student • Teacher prepared notes • Graphic organizers for note taking
<p>Reinforcing effort and providing recognition Teachers reinforce effort and provide recognition to relate to students' attitudes and beliefs and, thus, are likely to affect the level of engagement in the cognitive process. Belief that effort affects the level of achievement is a powerful motivational tool. Recognition in the form of praise that is specific to an identified level of performance can have a powerful effect on student achievement.</p>	<ul style="list-style-type: none"> • Use varied questioning techniques • Explain/justify solutions orally and in writing • Use mnemonics to teach a topic 	<ul style="list-style-type: none"> • Response journals/dialogue journals • Scoring guides to self-assess effort and achievement • Pause, prompt, and praise strategy • Concrete symbols of recognition
<p>Homework and practice Teachers need to assure that students understand the purpose of homework assignments, and feedback should be given to have an impact on achievement. The effect of practice on achievement can be substantial. Provide students with an opportunity to practice a few examples in depth at a slower pace rather than a rushed practice of multiple examples.</p>	<ul style="list-style-type: none"> • Independent assignment/practice • Student-student discussion • Practice with materials that include a way for students to self-check their responses • Instructional games 	<ul style="list-style-type: none"> • Activities that focus on specific skills • Charting speed and accuracy • Oral reading • Silent reading that is shared • Daily writing that is shared
<p>Nonlinguistic representations Teachers require students to represent information using the imagery mode (mental pictures or physical sensations). Accomplished by graphic representations, making physical models, generating mental pictures, drawing pictures and pictograms, and engaging in kinesthetic activities.</p>	<ul style="list-style-type: none"> • Sequence instruction: Concrete-Semi-concrete-Abstract • Draw diagrams and building models • Use manipulatives • Construct graphs 	<p>Graphic organizers used during or after the reading process, such as:</p> <ul style="list-style-type: none"> • Descriptive • Time/Sequence • Process/Cause-Effect • Episode • Generalization/Principle • Concept
<p>Structured small groups Teachers group students using a variety of criteria for grouping, managing the size of the groups, and using groups with other classroom structures for the greatest effect on achievement.</p>	<ul style="list-style-type: none"> • Small group work • Peer tutoring 	<ul style="list-style-type: none"> • Student -teaches-student • Literature circles • Discussion groups • Readers Theater
<p>Setting goals and providing feedback Teachers use goal setting to establish direction and purpose for learning. Feedback that produces the largest effect on achievement is "corrective" in nature, indicating what is correct and incorrect with students' knowledge and skills. Timing of feedback is also important. The more immediate the feedback, the more effect it has on achievement.</p>	<ul style="list-style-type: none"> • Use varied assessments (tasks, tests, observations) • Practice with materials that include a way for students to self-check their responses 	<ul style="list-style-type: none"> • Contract with students • Scoring guides for assignments • Feedback based on scoring guide • Peer feedback
<p>Generating and testing hypotheses Teachers require students to apply knowledge through generating and testing hypotheses. Accomplished by systems analysis, problem solving, historical investigation, invention, experimental inquiry, and decision-making.</p>	<ul style="list-style-type: none"> • Gathering and interpreting data • Investigate problem situations 	<ul style="list-style-type: none"> • Directed Reading Thinking Activity (DRTA) • Directed Listening Thinking Activity (DLTA) • Student-teaches-student
<p>Activating prior knowledge Teachers require students to retrieve what they already know about a topic. Accomplished by cues/questions and advanced organizers. This is critical to learning of all types because background knowledge can influence what is perceived.</p>	<ul style="list-style-type: none"> • Use varied types of questions • Use mnemonics to teach a topic 	<ul style="list-style-type: none"> • DRTA and DLTA • Pre-reading and pre-writing activities • Brainstorming • Preparation, Assistance, Reflection (PAR) • Anticipation guide

Instructional Models/Programs And Methods That Have Proven To Be Successful With Low Achieving Students

Content-Based Models/Programs	CSRD Model*	Externally Recommended	Instructional Methods	
Direct Instruction	X			Identifying similarities and differences
			❖	Summarizing and note taking
				Reinforcing effort and providing recognition
				Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			
Success for All	X			Identifying similarities and differences
				Summarizing and note taking
				Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			
Modern Red School House	X			Identifying similarities and differences
				Summarizing and note taking
				Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			
Roots and Wings	X			Identifying similarities and differences
				Summarizing and note taking
			❖	Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			

Content-Based Models/Programs	CSR Model*	Externally Recommended	Instructional Methods	
Core Knowledge	X			Identifying similarities and differences
				Summarizing and note taking
				Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
				Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
❖	Activating prior knowledge			
Cooperative Integrated Reading and Composition (CIRC)	X			Identifying similarities and differences
			❖	Summarizing and note taking
			❖	Reinforcing effort and providing recognition
			❖	Homework and Practice
			❖	Nonlinguistic representations
			❖	Structured small group learning
				Setting goals and providing feedback
			❖	Generating and testing hypotheses
❖	Activating prior knowledge			
Breakthrough to Literacy¹	X		❖	Identifying similarities and differences
			❖	Summarizing and note taking
				Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
				Structured small group learning
				Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			
National Writing Project (teacher training project)	X			Identifying similarities and differences
			❖	Summarizing and note taking
				Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
				Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			

Content-Based Models/Programs	CSR Model*	Externally Recommended	Instructional Methods	
Saxon Mathematics		X		Identifying similarities and differences
			❖	Summarizing and note taking
				Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
				Setting goals and providing feedback
			❖	Generating and testing hypotheses
Cortez Management Mathematics Lab System		X		Identifying similarities and differences
				Summarizing and note taking
			❖	Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
Open Court Reading		X	❖	Identifying similarities and differences
			❖	Summarizing and note taking
			❖	Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
			❖	Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
❖	Activating prior knowledge			

Content-Based Models/Programs	CSRD Model*	Externally Recommended	Instructional Methods	
Academy of Reading ¹		X	❖	Identifying similarities and differences
				Summarizing and note taking
			❖	Reinforcing effort and providing recognition
			❖	Homework and Practice
				Nonlinguistic representations
				Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
“Plaid” Phonics ¹		X	❖	Identifying similarities and differences
				Summarizing and note taking
			❖	Reinforcing effort and providing recognition
				Homework and Practice
				Nonlinguistic representations
				Structured small group learning
			❖	Setting goals and providing feedback
				Generating and testing hypotheses
	Activating prior knowledge			

¹These instructional models/programs are supplemental programs to be used with a basal reading program.

*Comprehensive School Reform Demonstration Program (CSRDP): As part of the federally funded CSRDP program, the Virginia Department of Education has awarded competitive grants to school divisions to implement these research-based models in specific Virginia schools.

Direct Instruction

IN BRIEF

Developer	Siegfried Englemann
Year Established	1968
# Schools Served (Jan. 1968)	150
Level	K-6
Primary Goal	To improve academic performance so that by fifth grade, students are at least a year and a half beyond grade level
Main Features	*Field-tested reading, language arts, and math curricula *Highly scripted instructional strategies *Extensive training
Results	Numerous large- and small-scale evaluations have found significant positive effects on student achievement in reading, language arts, and/or mathematics
Impact on Instruction	To facilitate cross-class grouping, schools must coordinate schedules so that all teachers at a particular grade level teach major subjects at the same time
Impact on Organizational Staffing	Some teachers may be asked to serve as peer coaches
Impact on Schedule	To facilitate cross-class grouping, schools must coordinate schedules so that all teachers at a particular grade level teach major subjects at the same time
Subject-Area Programs Provided by Developer	Yes
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Not emphasized
Technology	None required
Materials	Detailed materials provided by publisher

Origin/Scope

Direct Instruction has evolved from a theory of instruction developed by Siegfried Englemann of the University of Oregon. Englemann's early works focused on beginning reading, language, and math and were published by Science Research Associates in 1968 under the trade name DISTAR (Direct Instruction System for Teaching And Remediation). Over the past three decades, the original curricula have been revised and new ones developed through sixth grade (plus remedial programs and science programs for higher grades). These curricula have been incorporated into the comprehensive school reform model known as the Direct Instruction Model, which has been implemented in some 150 schools nationwide. Direct Instruction curricular materials have been used in hundreds more schools.

General Description

Englemann's theory of instruction is that learning can be greatly accelerated in any endeavor if instructional presentations are clear, rule out likely misinterpretations, and facilitate generalizations. He and his associates have developed over 50 instructional programs based on this theory. Each program is shaped through field tryouts. Student errors are carefully evaluated and lessons revised prior to publication. The lessons are carefully scripted and tightly sequenced.

The comprehensive Direct Instruction Model incorporates teacher development and organizational components needed to optimize use of these programs. Through substantial training and in-class coaching, teachers in the lower grades learn to present highly interactive lessons to small groups. Students make frequent oral responses, and teachers monitor and correct errors immediately. Students are placed at appropriate instructional levels based on performance, so those who learn rapidly are not held back and those who need additional assistance receive it. The model calls for inclusion of students with special needs except in the most extreme cases.

Although the Direct Instruction Model incorporates curricula for all areas, its reading, language arts, and math curricula can be implemented separately.

For more information, contact:

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(The ADI refers schools and
districts to Direct Instruction
consultants around the U.S.)

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Success for All

IN BRIEF

Developer	Robert Slavin, Nancy Madden, and a team of developers from Johns Hopkins University
Year Established	1987
# Schools Served (Jan. 1998)	747
Level	PreK-6
Primary Goal	Ensuring that all children learn to read
Main Features	<ul style="list-style-type: none"> *Schoolwide reading curriculum *Cooperative learning *Grouping by reading level (reviewed by assessment every 8 weeks) *Tutoring for students in need of extra assistance *Family support team
Results	Students in Success for All schools have consistently outperformed students in control schools on reading tests; effects have been even more pronounced for students in the bottom quartile
Impact on Instruction	Prescribed curriculum and cooperative learning in reading classes; other subjects not affected (see Roots & Wings for a description of other curricular components that can be added)
Impact on Organizational Staffing	Building advisory committee; full-time facilitator; family support team; tutors
Impact on Schedule	Daily 90-minute reading periods; tutoring
Subject-Area Programs Provided by Developer	Yes (reading)
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Family support team works to increase parental involvement
Technology	None required
Materials	Detailed materials provided

Origin/Scope

Success for All was founded by Robert Slavin, Nancy Madden, and a team of developers from Johns Hopkins University. It was first implemented in a single elementary school in Baltimore in 1987. The following year it expanded to six schools (five in Baltimore and one in Philadelphia). By January 1998, it had grown to 747 schools in 40 states.

General Description

Success for All restructures elementary schools (usually high poverty Title I schools) to ensure that every child learns to read in the early grades. The idea is to prevent reading problems from appearing in the first place and to intervene swiftly and intensively if problems do appear.

Success for All prescribes specific curricula and instructional strategies for teaching reading, including shared story reading, listening comprehension, vocabulary building, sound blending exercises, and writing activities. Teachers are provided with detailed materials for use in the classroom. Students often work cooperatively, reading to each other and discussing story content and structure. From second through sixth grade, students use basals or novels (but not workbooks). All students are required to spend 20 minutes at home each evening reading books of their choice.

Students are grouped according to reading level for one 90-minute reading period per day. The rest of the day they are assigned to regular age-grouped grades. Every eight weeks, teachers assess student progress using formal measures of reading comprehension as well as observation and judgment. The assessments determine changes in the composition of the reading groups and help identify students in need of extra assistance. Those students receive one-on-one tutoring for 20 minutes per day at times other than regular reading or math periods. First graders get priority for tutoring. Tutors are generally certified teachers, although well-qualified paraprofessionals may tutor children with less severe reading problems.

Because parental involvement is considered essential to student success, each Success for All school forms a Family Support Team, which encourages parents to read to their children, involves parents in school activities, and intervenes when problems at home interfere with a child's progress in school. The operation of Success for All is coordinated at each school by a full-time facilitator who helps plan the program and coach teachers. Finally, an advisory committee composed of the principal, facilitator, teacher and parent representatives, and family support staff meets regularly to review the progress of the program.

For more information, contact:

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Modern Red Schoolhouse

IN BRIEF

Developer	Hudson Institute
Year Established	1992
# Schools Served (Jan. 1998)	43
Level	K-12
Primary Goal	To combine the rigor and values of the little red schoolhouse with the latest classroom innovations
Main Features	<ul style="list-style-type: none"> *Challenging curriculum *Emphasis on character *Integral role of technology *High standards for all *Individual education compact for each student
Results	Test scores of students in MRSh elementary schools have increased at multiple sites
Impact on Instruction	Teachers vary time and teaching approaches to ensure that all students pass "watershed assessments" in order to advance from primary to intermediate to upper divisions
Impact on Organizational Staffing	Technology specialist must be added to the staff
Impact on Schedule	Teachers may need to reschedule their day to accommodate interdisciplinary lessons and long-term projects
Subject-Area Programs Provided by Developer	Yes
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Parents agree to help take responsibility for student performance through Individual Education Compacts; community helps define character development component
Technology	Sophisticated computer technology is required
Materials	Provided

Origin/Scope

Modern Red Schoolhouse (MRSh) was developed in 1992 by the Hudson Institute, a private, non-profit research organization. There are 43 MRSh schools in 11 states.

General Description

MRSh works in partnership with schools throughout the country to reinvent the virtues of the little red schoolhouse in a modern context.

At an MRSh school, students master a rigorous curriculum, develop character, and promote the principles of democratic government. These elements of the traditional red schoolhouse are then combined with innovative teaching methodologies and student groupings, flexibility in organizing instruction and deploying resources, and advanced technology as a learning and instructional management tool.

The core principle of MRSh is that all students can and will reach high academic standards. Mastery of subject matter is the only acceptable goal, regardless of a child's background, learning style, or pace. Because students learn at different rates and in different ways, instructional methodologies and time spent on lessons vary. This way, students progress through the curriculum in the ways that are best suited to their individual strengths and abilities.

MRSh strives to help all students achieve high standards through the construction of a standards-driven curriculum; traditional and performance-based assessments; effective organizational patterns and professional-development programs; and effective community-involvement strategies.

The primary tool for monitoring continuing progress is the Individual Education Compact, an agreement negotiated by the students, parents, and teacher. This "educational road map" establishes measurable goals, details parent and teacher responsibility for helping the student achieve, and lists services the school, parents, or community should provide.

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Roots & Wings

IN BRIEF

Developer	Robert Slavin, Nancy Madden, and a team of developers from Johns Hopkins University
Year Established	1993
# Schools Served (Jan. 1998)	747 schools use Success for All; over 200 of these have added Roots & Wings components
Level	PreK-6
Primary Goal	To guarantee that every child will progress successfully through elementary school
Main Features	<ul style="list-style-type: none"> *Research-based curricula *One-to-one tutoring *Family support team *Cooperative learning *On-site facilitator *Building advisory team
Results	Students in Roots & Wings schools have outperformed students in control schools
Impact on Instruction	Combination of prescribed curriculum with teacher-developed instruction in the areas of literacy, math, and social and scientific problem-solving
Impact on Organizational Staffing	Family support team; full-time facilitator; building advisory committee; one-to-one tutoring
Impact on Schedule	Schedule may need to be adjusted to incorporate curricular requirements
Subject-Area Programs Provided by Developer	Yes (reading, math, science, social studies)
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Family support team works to increase strong school-home connections
Technology	None required
Materials	Provided (as part of the cost of design)

Origin/Scope

Roots & Wings, created in 1993 by Robert Slavin, Nancy Madden, and a team of developers at Johns Hopkins University, is a comprehensive, whole-school reform model designed to place a high floor under the basic skills achievement of all students while building problem solving skills, creativity, and critical thinking. As of January 1998, Success for All, the reading component of Roots & Wings, is operating in 747 schools in 40 states. Over 200 of these schools have added the math, science, and social studies components that constitute Roots & Wings.

General Description

The purpose of Roots & Wings is to create well-structured curricular and instructional approaches for all elementary subjects, pre-kindergarten to grade 6, based on well-evaluated components and well-researched principles of instruction, assessment, classroom management, motivation, and professional development.

Roots & Wings builds on the Success for All program, initiated in 1987, which provides research-based curricula for students in pre-kindergarten through grade six in reading, writing, and language arts; one-to-one tutoring for primary grade students struggling in reading; and extensive family support services (see description of Success for All). To these, Roots & Wings adds MathWings, a practical, constructivist approach to mathematics for grades 1-5, and WorldLab, an integrated approach to social studies and science emphasizing simulations and group investigations for grades 1-5.

Roots refers to strategies that every child needs in order to meet world-class standards and to have good language skills, reading skills, and health. It involves early intervention for at-risk children, research-based curricula with extensive training support, one-to-one tutoring, integrated health and social services, and family support. Wings refers to a curriculum and instruction strategy designed to let children soar. Each school has a full-time facilitator to help implement the program, a Family Support Team to foster community and parent involvement, and a Building Advisory Team to evaluate the entire school climate and advise the principal on general direction and goals.

For more information contact:

Roots & Wings
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Core Knowledge

IN BRIEF

Developer	E. D. Hirsch, Jr.
Year Established	1986
# Schools Served (Jan. 1998)	700+
Level	K-8
Primary Goal	To help students establish a strong foundation of core knowledge for higher levels of learning
Main Features	*Sequential program of specific grade-by-grade topics for core subjects *Rest of curriculum (approximately half) left for schools to design
Results	Single school quantitative and qualitative data demonstrate improved student achievement and equity -- specifically for students in lower performing schools
Impact on Instruction	Instructional methods (to teach core topics) are designed by individual teachers/schools
Impact on Organizational Staffing	Minimal
Impact on Schedule	Minimal
Subject-Area Programs Provided by Developer	Yes
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Schools are expected to involve parents in planning and resource development
Technology	None required
Materials	Detailed material provided

Origin/Scope

The Core Knowledge Foundation is an independent, non-profit, non-partisan organization founded in 1986 by E. D. Hirsch, Jr. The foundation's essential program, a core curriculum titled the Core Knowledge Sequence, was first implemented in 1990. By January 1998, it was being used in more than 700 schools in 42 states.

General Description

Core Knowledge is an approach to curriculum based on the work of E. D. Hirsch, Jr. and described in his books Cultural Literacy and The Schools We Need and Why We Don't Have Them. The focus of the Core Knowledge approach is on teaching a common core of concepts, skills, and knowledge that characterize a "culturally literate" and educated individual. The purpose of the Core Knowledge approach is to increase academic performance as demonstrated on national and state norm- and criterion-referenced tests, to help narrow the gap between academic "haves" and "have nots," and to build consensus among teachers, parents, and administrators.

Core Knowledge is based on the principle that the grasp of a specific and shared body of knowledge will help students establish strong foundations for higher levels of learning. Developed through research examining successful national and local core curricula and through consultation with education experts in each subject area, the Core Knowledge sequence provides a consensus-based model of specific content guidelines for students in the elementary grades. It offers a progression of detailed grade-by-grade topics of knowledge in history, geography, mathematics, science, language arts, and fine arts, so that students build on knowledge from year to year in grades K-8. Instructional strategies are left to the discretion of teachers.

The Core Knowledge sequence typically comprises 50 percent of a school's curriculum; the other 50 percent allows schools to meet state and local requirements and teachers to contribute personal strengths. Teachers are also expected to provide effective instruction in reading and mathematics. The Core Knowledge curriculum is detailed in the Core Knowledge Sequence Content Guidelines for Preschool through Grade Eight and illustrated in a series of books entitled What Your (First-, Second- etc.) Grader Needs to Know.

Parental involvement and consensus building contribute to the success of the Core Knowledge sequence. Parents and community members are invited to be involved in obtaining resources, planning activities, and developing a schoolwide plan. The schoolwide plan integrates the Core Knowledge content with district and state requirements and assessment instruments. Additionally, parents and teachers are encouraged to cooperate in planning learning goals and lesson plans.

For more information, contact:

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**Cooperative Integrated Reading and Composition
(CIRC)**

IN BRIEF

Developer	Center for Social Organization of Schools, Johns Hopkins University
Year Established	1986
# Schools Served (Jan. 1998)	About 1,000
Level	2-8
Primary Goal	To improve reading and writing skills
Main Features	*Story-related activities in teams *Direct instruction in reading comprehension *Integrated language arts/writing
Results	Improved reading and writing achievement
Impact on Instruction	Increased cooperative learning practices; focus on literature and basals; focus on higher-order learning
Impact on Organizational Staffing	Reorganizes classroom for student teamwork; requires no extra staffing
Impact on Schedule	Longer reading periods are encouraged
Students Served	
Title I	Yes
English-language learners	Yes, through Bilingual Cooperative Integrated Reading and Composition (BCIRC)
Urban	Yes
Rural	Yes
Parental Involvement	Encouraged but not required
Technology	Schools apply existing technology
Materials	Teachers' manuals; curriculum materials matched to basals and novels

Origin/Scope

Research and development on cooperative learning began at the Johns Hopkins University Center for Social Organization of schools in 1970. Cooperative Integrated Reading and Composition (CIRC) was developed in collaboration with schools during 1986-88 to provide elementary schools with a full comprehensive reading and writing curriculum based on research on cooperative learning and research on effective reading and writing practices. CIRC is now used in grades 2-8. Development of materials and processes has continued based on use of the program in schools. Program developers include Robert Slavin, Robert Stevens, Nancy Madden, and Anna Marie Farnish.

In 1987, research and development of Bilingual Cooperative Integrated Reading and Composition (BCIRC), the program's Spanish adaptation, was begun.

General Description

CIRC provides curricula and instructional practices for teaching reading and writing. The practices include use of reading groups, students working in teams, story-related activities, partner reading, story grammar and story-related writing, words-out-loud exercises, word meaning exercises, story retell, partner checking, regular assessment, direct instruction in reading comprehension, independent reading, and integrated writing and language arts. CIRC includes curriculum materials to be used in these processes.

For more information, contact:

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Breakthrough to Literacy

IN BRIEF

Developer	Carolyn Brown and Jerry Zimmermann, University of Iowa
Year Established	1981
# Schools Served (Jan. 1998)	Over 1,850
Level	K-2
Primary Goal	To teach connection of oral language to print
Main Features	*Daily story reading *Interactive computer software *Print materials to integrate computer curriculum *Children progress at their own pace
Results	Breakthrough students in several districts have scored higher on standardized reading tests than students in control groups have
Impact on Instruction	Suggested routine for 10-15 minutes of reading interaction and 15-20 minutes on the computer (in reading classes only)
Impact on Organizational Staffing	None
Impact on Schedule	None
Students Served	
Title I	Yes
English-language learners	In the developmental stages
Urban	Yes
Rural	Yes
Parental Involvement	Parents are asked to read to their child and listen to the child "read" to them every night
Technology	Computer software is provided; 2-3 computers and 1 printer per classroom are necessary
Materials	Provided

Origin/Scope

Breakthrough to Literacy was founded by Carolyn Brown and Jerry Zimmermann in 1981 at the University of Iowa. Since its initial implementation in Dallas public schools in 1994, Breakthrough (previously called Foundations in Reading) has been adopted in over 1,100 schools in 19 states, serving over 25,000 children.

General Description

Breakthrough to Literacy focuses on teaching pre-kindergarten through second grade students to relate oral language and pictures to print. The program provides each child, at his or her level of language/literacy development, stories and access to direct and explicit instruction for phonemic awareness. This is achieved through the use of "big books," pupil books, and computer modules.

The typical Breakthrough classroom focuses on one big book per week (10-15 minutes per day). The book is read to the children every day with a different objective. On Monday, for example, the objective is introduction. The teacher introduces the author and illustrator and reads the book to the students. They discuss what they liked or disliked about it and then the teacher reads it again. On Tuesday, the objective is review. The teacher asks the children to recall what they learned the previous day and to role play based on the story's characters. Wednesday, integration is the focus. The children are asked to relate what they've learned to something in their own lives; and so on through Friday.

Children also spend 15-20 minutes per day at the computer making connections between what they have "read" and what they see on the computer screen, and vice versa. When the teacher chooses a new big book, the children have already seen those words on the computer several times. This combination of literature-based instruction and instructional technology is intended to help the children develop better phonemic awareness, enhance their vocabulary development, and promote an understanding of sound-symbol relationships. Children progress through the program at their own pace due to daily one-on-one sessions with teachers and computers.

The program does not end in the classroom, however. Parents are urged to read to their children and have stories "read" to them every night.

For more information, contact:

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National Writing Project

IN BRIEF

Developer	James Gray, University of California, Berkeley
Year Established	1974
# Schools Served (Jan. 1998)	160 sites
Level	K-16
Primary Goal	To improve the teaching of writing
Main Features	<ul style="list-style-type: none"> *Teachers-teaching-teachers model of professional development *Local and national networks of exemplary practitioners *Professional development programs designed collaboratively with schools and districts to reflect local needs *Writing promoted as a tool for learning across the curriculum
Results	In two studies, NWP students (including English-language learners) have had higher grades, writing assessment scores, and/or college placement rates than students in control groups
Impact on Instruction	Provides strategies for linking instruction, curriculum, standards, and assessment in the teaching of writing
Impact on Organizational Staffing	None required
Impact on Schedule	None required
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Professional development programs can be designed with parent engagement components
Technology	Professional development programs can be designed with technology components
Materials	None required

Origin/Scope

The National Writing Project (NWP) began in 1974 at the University of California, Berkeley where its founder, James Gray, established a program for K-16 teachers called the Bay Area Writing Project. The NWP has now been replicated at 160 sites in 46 states and Puerto Rico.

General Description

The NWP has three major goals: (a) to improve the teaching of writing at all grade levels, (b) to improve professional development programs for teachers, and (c) to improve the professional standing of classroom teachers. Writing Project sites are typically housed in universities and serve multiple schools and school districts. Local sites accomplish these goals by supporting a K-16 network of exemplary teachers of writing who are able to work with schools around their professional development needs.

In practice, each local site identifies and recruits exemplary teachers for an annual invitational institute on its campus. Most often held in the summer, this intensive institute convenes teachers to demonstrate and examine their approaches to teaching writing; consider strategies for using writing as a tool in all subject areas; learn about how to teach writing by writing themselves; study theory and research underpinning best practices in the teaching of writing; and prepare themselves to lead professional development programs in the schools during the academic year.

Writing project workshops in the schools, then, are characterized first by the fact that they are taught by credible teachers, the graduates of the invitational institutes. Second, these workshops are tailored to the needs of the contracting school or district. The local project works in concert with the school faculty to design full professional development programs with sessions matched to the school, teacher, and student context. Programs are conducted in a series, rather than as one-shot events, so that teachers can receive support as they make changes in their practices. Third, writing project programs can be designed to include features like peer coaching or to work with regular school support structures like school improvement committees or grade level teams.

National Writing Project sites also provide an array of other programs to serve individual teachers and schools, such as open enrollment summer institutes, teacher research groups, assessment workshops, emergent literacy programs, a series on writing across the curriculum, support for new teachers, writing and reading conferences, young writer's programs, seminars and study groups, and parent workshops. Program offerings at local sites typically reflect the needs and interests of teachers in their service areas.

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National Writing Project

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Web site: <http://www-gse.berkeley.edu/Research/NWP/nwp.html>

Saxon Mathematics

IN BRIEF

Developer	Saxon Publishers
Year Established	1980
# of Schools Served	Estimated 5500 school districts in US 23 schools in Virginia
Level	K-12
Primary Goal	To provide students an opportunity to learn mathematics through gradual development of concepts and the practice of those concepts extended over a considerable amount of time.
Main Features	K-12 mathematics program based upon incremental development, continual practice and review, and cumulative assessments at regular intervals.
Results	Schools that have used the program have shown increases on a variety of norm referenced and criterion referenced tests.
Impact on Instruction	Scripted lessons for teacher use.
Impact on Organizational Staffing	None
Impact on Schedule	None
Students Served	
Title I	Yes
English-language learners	Yes (Spanish version available)
Urban	Yes
Rural	Yes
Parental Involvement	No indication
Technology	No mention of use
Materials	Supplemental materials available through grade 8.

Origin/Scope

The Saxon publishers, founded in 1980 by John Saxon, offers a complete mathematics program for teachers for grades K-12. It is now being used by an estimated 5500 school divisions across the United States. There are a number of urban centers that have adopted the Saxon mathematics program for use with special populations.

General Description

The Saxon mathematics program seeks to improve student learning of mathematics through gradual development of concepts and the practice of those concepts extended over a considerable amount of time. These methods are called incremental development and continual review. The Saxon program began with the publication of John Saxon's first book for Algebra I in 1980. By 1993, the company had published thirteen books and programs for kindergarten through high school calculus.

Saxon's mathematics program provides teachers with step by step lesson explanations and examples to use with students. The K-4 program provides students experiences with manipulatives and mental mathematics. The remainder of the program is based in the incremental development and continual review method.

For more information, contact:

Saxon Publishers, Inc.
2450 John Saxon Blvd.
Norman, OK 73071
Phone: 800-284-7019
Fax: 405-360-4205
Web site: <http://www.saxonpub.com>

Cortez Management Math Lab Program

IN BRIEF

Developer	Cortez Management Corporation
Year Established	1999
# of Schools Served	17 in 1999 and 22 in 2000
Level	Grade 4 – Algebra II
Primary Goal	To provide mastery based learning and individualized instruction in mathematics.
Main Features	Computers deliver the individualized instruction and the teachers act as “guides on the side” providing direct instruction in small groups of 5-7 students.
Results	In the 8 school divisions where the program was used, Standards of Learning scores showed significant increases. (119% in high school scores, 32 % in eighth grade scores, and 35% in fifth grade scores)
Impact on Instruction	Students are presented with content using technology and small group instruction.
Impact on Organizational Staffing	Usually requires a lab administrator
Impact on Schedule	None
Students Served	
Title I	No indication
English-language learners	No indication
Urban	Yes
Rural	Yes
Parental Involvement	No indication
Technology	Fully used
Materials	Program provides supporting materials needed for implementation.

Origin/Scope

The Cortez Management Math Lab was developed at the request of Virginia division superintendents, based on the Virginia Tech Math Emporium. The Cortez Management Corporation initiated the pilot in January 1999 with four schools in three school divisions. It is now being used in 22 schools in nine school divisions.

General Description

The Cortez Management Math Lab incorporates mastery based learning and individualized instruction appropriate for grades four through Algebra II. Computers deliver the individualized instruction and the teachers act as “guides on the side” providing direct instruction in small groups of 5-7 students.

All the essential elements of the program implementation and costs are fully described and readily available. The program requires computer utilization for each student each instructional day, software purchases, a lab administrator, management fees, three days teacher training per year, and two days staff development during the school year for one teacher per school.

For more information, contact:

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Open Court Reading

IN BRIEF

Developer	SRA/McGraw Hill
Year Established	2000; Newest series
#Schools Served (December 2000)	200+
Level	K - 6
Primary Goal	To teach children to read through a well-designed, systematic program, balancing phonics and literature.
Main Features	<ul style="list-style-type: none"> *Children read authentic literature in the Student Anthology by the middle of Grade 1. *Carefully builds the foundations for reading *Engages students in Constructing meaning from text *Incorporates writing as a form of learning and personal communication *Provides teachers with tools to teach
Results	Many studies show gains in student performance
Impact on Instruction	<p>Three-part lesson plan:</p> <p>Preparing to Read: the first part of each lesson includes the decoding and word building skills of reading.</p> <p>Reading and Responding: The second part emphasizes comprehension skills and strategies as students read the lesson selected.</p> <p>Integrating the Curriculum: The third section engages students in the writing process and develops essential language arts skills.</p> <p>Independent Work Time: Meets individual needs through re-teaching.</p>
Impact on Organizational Staffing	None
Impact on Schedule	None
Subject-Area Programs Provided by Developer	Yes. In reading.
Students Served	
Title I	Yes
English-language learner	Yes
Urban	Yes
Rural	Yes
Parental Involvement	Home Connection: Unit letters are sent to parents.
Technology	<p>CDROM Phonics for grades K, 1, 2, and 3.</p> <p>CDROM Lesson Planner for teachers</p> <p>CDROM Research Assistant for teachers</p>
Materials	Complete set of reading materials for each grade level.

Origin/Scope

Open Court Reading has provided an approach to beginning reading instruction since the early 1960s. The approach has recognized that if children are to learn to read with fluency and comprehension, they need explicit, systematic skills instruction and rich experiences with authentic literature.

General Description

Open Court Reading is built upon the following principles: high expectations and support for all students; research based teaching (37 years); systematic, explicit phonics instruction; authentic literacy experience; and meaningful comprehension and integrated instruction.

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Phone: 804-264-6199

Web site: <http://www.sra4kids.com>

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Academy of Reading

IN BRIEF

Developer	AutoSkill International Inc.
Year Established	1995
# Of Schools Served	100+
Level	K – 12; Emphasis on Middle School
Primary Goal	For emerging readers: to create a solid foundation to support higher skills; foundations include phonemic awareness, decoding skills, and comprehension abilities. For upper elementary and middle school students who struggle with reading: to give students a foundation in phonemic awareness and decoding skills that will improve comprehension.
Main features	Computer based instruction; battery of tests that provides teachers with the means to analyze in detail students' reading ability; a program designed for each student's reading profile.
Results	Research results from a wide range of studies show dramatic gains for middle school students; most schools in Virginia that have implemented the program have experienced solid gains in students' reading level; little data as of Spring 2000 on impact on SOL tests.
Impact on Instruction	Requires students to spend 30 minutes per day on Academy of Reading Program.
Impact on Organizational Staffing	None
Impact on Schedule	Time must be found for students to complete the program. Most schools that have adopted have developed a Middle School Reading block.
Subject-Area Programs Provided by Developer	Yes, in reading.
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parent Involvement	No specific program
Technology	Significant use of computers required. Either in a computer lab format or enough computers in a classroom to allow students who need instruction to spend 30 minutes per day.
Material	Provided software

Origin/Scope

Academy of Reading was developed by two Canadian researchers, Dr. Christina Fiedorowicz and Dr. Ronald Trites, in the 1980s for use with learning disability students. By 1993 they recognized that their reading program would be useful to Reading Delayed students as well as Reading Disabled students.

General Description

The Academy of Reading builds the phonemic awareness of students, develops their decoding skills, and improves their comprehension abilities. The program's modular design allows teachers to customize the student's instruction in all three areas based on the student's individual requirements. The approach to instruction is based on a neuro-psychological theory on how the brain processes and retains information. Students working at the precise level at which they need instruction are immersed in the reading material until they obtain "automaticity" on a particular reading skill.

The program allows three levels of implementation. The first implementation model addresses the needs of students in grades K-3. This model utilizes the various training components of the Academy of Reading as an early intervention tool. In this approach, students master a variety of skills from phonemic awareness, visual matching, auditory visual matching and comprehension strategies. By mastering the battery of component skills, a student will have acquired the requisite basic skills to be a successful reader by the end of the third grade.

The second implementation model addresses the intervention needs of students in grades 4-8. This approach uses a Cloze paragraph assessment to determine the degree of reading delay. Based on this assessment the students are assigned into one of three streams: 1) Auditory – Visual Matching is assigned to students 1 – 2 grade levels behind; 2) Visual is assigned to students 3 or more grade levels behind; and 3) Students who require substantial motivation, or are learning English for the first time are supplemented with a course of phonemic awareness instruction. All students are gradually assigned higher-order tasks as they progress through the material of the Academy of Reading.

The third implementation approach addresses the needs of mature students in high school and adult education. The model uses the same logic as the Grade 4 – 8 model, but substitutes adult for child content.

For additional information, contact:

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Instructional Impact, Inc.
2139 N Street, NW
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**Pearson Learning
Modern Curriculum Press
“Plaid” Phonics**

IN BRIEF

Developer	Modern Curriculum Press
Year Established	1960
# Of Schools Served	100+
Level	K – 6
Primary Goal	“Plaid” Phonics is a supplemental program that includes systematic, explicit, intensive and comprehensive phonics instruction. The program matches the necessary elements of a successful reading program described in research from Chall, (1967) to Lyons (1998).
Main features	This program reflects instructional principles founded on scientific research relevant to direct instruction of phonics and the development of reading skills. The instructional strategies implemented in “Plaid” Phonics are based on four components of balanced reading instruction that have been identified by research: phonemic awareness, systematic phonics/decoding, fluency, and comprehension.
Results	Independent validation study was conducted and results show that “Plaid” Phonics was effective in teaching students phonics.
Impact on Instruction	“Plaid” Phonics is a supplemental program and is used at the teacher’s discretion
Impact on Organizational Staffing	None
Impact on Schedule	None
Subject-Area Programs Provided by Developer	Yes, in reading.
Students Served	
Title I	Yes
English-language learners	Yes
Urban	Yes
Rural	Yes
Parent Involvement	No specific program
Technology	None
Material	Provided materials

Origin/Scope

The program was founded by Dr. Clarence E. Elwell who studied the problems of remedial readers at Harvard and noticed that many had not been taught phonics strategies. Over the years “Plaid” Phonics has been continuously revised to reflect the latest research on teaching reading in the classroom. Currently the program is in the tenth edition.

General Description

“Plaid” Phonics is based on four components of balanced reading instruction that have been identified by research: phonemic awareness, systematic phonics/decoding, fluency, and comprehension. Each component has a sequenced set of activities with appropriate material and a teacher resource guide.

For additional information, contact:

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