

The Research Base and Validation of



Direct Instruction Language Programs

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Executive Summary

Most educators agree that children who are facile with spoken language and who demonstrate an understanding of the meanings and relationships that underlie words are children who will do well in school. On the other hand, children who do not have a basic understanding of academic language used for instruction in classrooms, or the vocabulary that appears in text, will have difficulty understanding information they read or hear.

Academic language is different from everyday speech and conversation. It is the directions and demonstrations used by teachers for the teaching of concepts. It is the language of text, of discussion, and of formal writing. Academic language provides a foundation for the development of other language skills. It is a very important link in the process of children's learning and thinking development.

Many children acquire academic language outside of school. Such children commonly take part in conversations at home that involve abundant information and vocabulary that will be useful to them in school. By contrast, children from families with less adult-child support for refining the use of language are less likely to achieve the academic language proficiency required for success in school.

For English-language learners, academic language means far more than fluency in conversation. Although these students come to the classroom with prior knowledge in their native language, there often exists a gap between children whose native language is English and children for whom English is a second language. These children must acquire basic language skills *and* the additional academic language native English speakers are learning, if they are to be academically competitive.

Given the importance of academic language and the fact that vocabulary is such an essential aspect of it, one of the most crucial services that educators can provide is to systematically teach and reinforce the words, thinking, and knowledge children need to achieve long-term success.

This document describes the research base and validation of SRA's Direct Instruction language curriculum — the *Language for Learning*, *Language for Thinking*, and *Language for Writing* programs:

- Part I highlights the importance of language in the school curriculum.
- Part II provides an overview of *Language for Learning*, *Language for Thinking*, and *Language for Writing*.
- Part III describes the principles of high quality educational tools used in Direct Instruction language programs.
- Part IV demonstrates the alignment of *Language for Learning*, *Language for Thinking*, and *Language for Writing* with critical elements of oral language.
- Part V discusses the importance of written language.
- Part VI highlights the alignment of *Language for Writing* with the research-based elements of written language.
- Part VII summarizes 17 published peer-reviewed investigations on the effectiveness of *DISTAR Language*, *Language for Learning*, *Language for Thinking*, or *Language for Writing*.

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I. Importance of Oral Language

Oral language is a key aspect of children's early development. Language acquisition is a natural process and occurs almost without effort. The ability to speak grows with age, but not all growth automatically gives children the background knowledge and vocabulary they need to understand the content they will encounter in school. When children seem to be behind in language development, they are likely to have difficulty learning to read, understanding what they read, and participating in social interactions.

Oral language is an important link in the process of children's learning and thinking development. It is the basis of communication — in fact, it is the basis of literacy.

Oral Language and Beginning Reading Achievement

Reading is a language-based skill (Owens, 2001). Studies have repeatedly shown that elementary-aged children with lower beginning reading achievement are often those with language delays (Griffin, Hemphill, Camp, & Wolf, 2004; Nathan, Stackhouse, Goulandris, & Snowling, 2004).

- Language delays noted in the preschool years appear to be predictive of poor reading progress in the elementary grades. Delays as early as 24 and 31 months have been found to correlate with lower reading skills in elementary school (Rescorla, 2002).
- There appears to be a direct connection between oral language skills and the development of phonological awareness (Metsala, 1999; Snow, Tabors, Nicholson, & Kurland, 1995).
- Research has consistently demonstrated that children who perform well on phonological awareness tasks become successful readers, whereas children who perform poorly on these tasks experience more difficulties in learning to read (Adams, 1990; Bos & Vaughn, 2002; Mann & Foy, 2003; NICHD, 2000; Torgesen, Wagner, & Rashotte, 1994).
- Each language has different phonological characteristics and English-language learners may encounter specific difficulties related to their home language (Fashola, Drum, Mayer, & Kang, 1996).
- Instruction focused on oral language helps children build phonological awareness, learn vocabulary, and acquire knowledge of English grammatical structures — essential elements for success in school (Biemiller, 2003).

Oral Language and Reading Comprehension

Comprehension is the very reason for reading; it involves gathering meaning from text. Research has demonstrated a relationship between reading comprehension and oral language tasks such as picture naming.

- Messer, Dockrell, and Murphy (2004) found that children with word naming difficulties struggled with reading and language comprehension skills.
- Early oral language skills have been shown to be predictive of reading comprehension in the early elementary grades (Griffin et al., 2004).
- The link between oral language comprehension and subsequent reading comprehension for native English speakers suggests that systematic instruction in vocabulary and listening and reading comprehension strategies is particularly important for English learners (Gersten & Geva, 2003).
- Children make gains in reading comprehension when their oral language skills improve. More specifically, studies have demonstrated oral language vocabulary to be tied to reading comprehension (Brett, Rothlein, & Hurley, 1996; Snow, Burns, & Griffin, 1998).
- Medo and Ryder (1993) found that both average and highly skilled children benefited from oral vocabulary instruction prior to reading content-rich texts.

Oral Language Skills and Social Interaction

Oral language skills also benefit children's social interactions. Social tasks, such as engaging in a conversation to obtain information and expressing a particular point of view, are often dependent on the use of oral language.

- Research suggests that children with poorly developed oral language may experience social problems, such as rejection and feelings of isolation, as well as demonstrate inappropriate behaviors such as aggression and outbursts (Brinton, Fujiki, Spencer, & Robinson, 1997; Fujiki, Brinton, Isaacson, & Summers, 2001; Gertner, Rice, & Hadley, 1994).
- Qi and Kaiser (2004) compared the social skills of children with language delays to children with typical language development. Those children with language delays exhibited more problem behaviors and poorer social skills than the children with typical language development.

The social status of young children has been correlated with their oral language skills (Brinton et al., 1997).

- Gertner et al. (1994) found receptive language (i.e., understanding what is said) to be a discriminating factor that separated children who were socially accepted by their peers from those who were not. Children with low language skills were generally rated by their peers as less popular than children with typical language skills. In fact, oral language skills were found to be a stronger predictor of peer status than age or intelligence.
- Fujiki, Brinton, and Todd (1996) found that children with specific language impairments rated themselves as feeling significantly more lonely at school than their typically developing classmates.
- Jambunathan and Norris (2000) found that children's perception of their self-competence was highly related to their actual language skills.

Long-Term Effects of Poorly Developed Oral Language

Longitudinal studies suggest that young children with poorly developed oral language skills continue to experience negative social and academic consequences as adolescents and adults (Arnbak, 2004).

- For example, Aram, Ekelman, & Nation (1984) administered a battery of language and non-language measures to 47 preschool children with language disorders. Twenty of these children were located 10 years later and evaluated in four areas: (a) intelligence, (b) speech and language, (c) academic achievement, and (d) social adjustment. Results suggested that children who experienced language disorders in the preschool years were highly likely to have long-standing language, academic, and behavioral problems in adulthood.

Research has demonstrated a relationship between reading comprehension and oral language tasks such as picture naming.

Oral Language and Socioeconomic Status

Basic language instruction would be unnecessary if all children entered school with well-developed oral language skills. Unfortunately, many children begin school with less developed oral language.

- Hart and Risley (1995; 1999) provided detailed information about the social and linguistic environments in which typical children learn to talk.
- In a longitudinal study conducted over two and a half years of children from 42 diverse families, researchers conducted monthly hour-long observations of everything said by, to, and around each of the 42 children during unstructured activities in their homes (Hart & Risley, 1995).

The authors sought to determine why children differed greatly in terms of the age at which they began to learn language and how fast they learned once they began. Families represented welfare, lower, middle, and upper socioeconomic status (SES) homes. They found that race and gender were not significant factors influencing a child's acquisition of language.

However, the economic status of the family strongly correlated with the language development of the children.

Children living in poverty were found to have acquired less than a third of the vocabulary of high SES families by the age of three. Vocabulary acquisition was highly correlated to the number of language experiences in the home. In a typical hour the average child in a high SES family heard 2,153 words while a child in a low SES family heard only 616 words.

The authors also attempted to determine how much difference children's early experience would make in school performance at Grade 3, when the children were nine to ten years old.

- Measures of accomplishment at age three predicted measures of language skill at age nine and ten on both the *Peabody Picture Vocabulary Test-Revised (PPVT-R)* of

receptive vocabulary ($r = 0.58$) and the *Test of Language Development-2: Intermediate (TOLD)* ($r = 0.74$) and its subtests (listening, speaking semantics, syntax).

- Vocabulary at age three was also strongly associated with reading comprehension scores on the *Comprehensive Test of Basic Skills (CTBS/U)* ($r = 0.56$).

Oral Language and Second-Language Learners

Learning a second language is difficult. Learning in a second language is even more difficult. According to recent research (Hakuta, Goto Buttler, & Witt, 2000):

- Oral proficiency takes three to five years to develop, and academic English proficiency can take four to seven years.
- A child's SES is a powerful predictor of the rate of English development.
- Second-language learners have to acquire oral and academic English *and* keep pace with English-language speakers, who continue to develop their language skills.

The Need is Clear

In summary, it is no surprise that children with poorly developed academic language skills tend to have lower academic achievement than those children whose English language development is average or above average. Children will not learn if they do not understand what the teacher is saying or cannot comprehend what they read in their textbooks. The need for a research-based curriculum to teach and reinforce academic language and, as a result, greatly enhance students' chances of learning the academic content presented in subject matter classes is clear.

Families' Language and Use Differ Across Income Groups

Measures & Scores	13 Professional		23 Working-class		6 Welfare	
	Parent	Child	Parent	Child	Parent	Child
Pretest score (a)	41		31		14	
Recorded vocabulary size	2,176	1,116	1,498	749	974	525
Average utterances per hour	487	310	301	223	176	168
Average different words per hour (b)	382	297	251	216	167	149

(a) At the beginning of the study, parents completed a vocabulary pretest. Each parent was asked to complete a form abstracted from the *Peabody Picture Vocabulary Test (PPVT)*. Each parent was given a list of 46 vocabulary words and a series of pictures (four options per vocabulary word) and asked to write the number of the picture that corresponded to the written word. Parent performance on the test was highly correlated with years of education ($r = 0.57$).

(b) Parent utterance and different words were averaged with children 13-36 months old. Child utterances and different words were averaged for four observations when the children were 33-36 months old.

II. Overview of Direct Instruction Language Programs

The Direct Instruction language curriculum focuses on the language used in schools and textbooks. A major premise of this curriculum is that students must understand the language used for instruction in classrooms, as well as the language that appears in texts and workbooks. What is instructional language?

- The directions and verbal demonstrations used by instructors to teach arithmetic, reading, social studies, science, and other school subjects
- The language used by teachers to direct the sequence of events during a school day
- The directions and instruction sequences that appear in textbooks and workbooks
- A broad array of background knowledge and the vocabulary associated with it
- A wide variety of English grammatical structures

The programs that make up the Direct Instruction language curriculum — *Language for Learning*, *Language for Thinking*, and *Language for Writing* — address the important elements of instructional language as well as broader knowledge of the words and sentence structures relevant to reading comprehension and writing.

What is Language for Learning?

Language for Learning is the first level of three Direct Instruction language intervention programs designed to teach basic language concepts and skills. The 150 lessons of *Language for Learning* (formerly *DISTAR Language I*) focus on the language of classroom instruction. The program uses demonstrations, actions, and pictures to teach basic concepts and instructional words.

- *Language for Learning* moves from the identification of familiar objects to the description and classification of these objects.
- Children learn the precise meaning of both familiar and new concepts and use these concepts in statements and questions.
- Additional concepts taught in *Language for Learning* are important for logical reasoning such as “if-then,” “before-after,” “some,” and “only.”

In the *Language for Learning* program, students develop skills required to use vocabulary, descriptive words, and sentences with growing independence. They also accumulate the important background information, thinking skills, and vocabulary they need to succeed in school.

Who Benefits from Language for Learning?

Language for Learning is intended for students who:

- Need a firm foundation of spoken words before they can get much out of narratives or texts
- May not have extensive experience in hearing and speaking the English language in academic settings
- Need explicit instruction in expressive and receptive language
- Need to build English vocabulary and acquire knowledge of English grammatical structures
- Need to build knowledge of language of the classroom

Regardless of their age or grade level, all students entering *Language for Learning* should have some oral language skills.

- They must be able to imitate a word or phrase spoken by an adult (e.g., they should be able to repeat “a cat” or “under the table”).
- They must be able to answer questions such as, “What is this?” or “What are you doing?” or they must be able to learn to do so quickly.
- They must be able to answer simple yes/no questions such as, “Are you standing?” or “Is this a chair?”
- They must be able to point to and label common objects, such as, “a door,” and complete simple actions such as, “sit.”
- They must be able to describe pictures of objects and actions using the same words that are used to name the actual objects and actions.

Students who cannot carry out these language tasks should be taught these skills before starting the program.

What is Language for Thinking?

Language for Thinking (formerly *DISTAR Language II*) is the second level of three Direct Instruction language intervention programs. The 150 lessons of *Language for Thinking* extend the instruction found in *Language for Learning* to more advanced concepts.

- Students develop reasoning and critical thinking through work with classification, if/then reasoning, and analogies.
- They expand their vocabularies and learn how words are related as synonyms, opposites, and homonyms.
- In sentence skill exercises, students analyze what a sentence says and learn what inferences can be drawn from that sentence.
- Additional concepts set the stage for reading comprehension through activities that include asking questions, retelling accounts, and making inferences.

Who Benefits from Language for Thinking?

Language for Thinking is intended for students who are older or have higher skill levels than students placed in *Language for Learning*. The program is intended for students who:

- Have completed, or almost completed, *Language for Learning*
- Have meager vocabulary for their age and who have difficulty comprehending what they read
- Tend to need more repetitions in order to interpret and infer information from oral and written language
- Need explicit instruction in expressive and receptive language
- Need to build English vocabulary and acquire knowledge of English grammatical structures

In *Language for Thinking*, students use an expanded vocabulary and increasingly complex sentence structures. After completing the *Language for Thinking* program, students are prepared to discern precise meaning, both literal and inferential, from text materials they encounter in and out of school.

What is Language for Writing?

Language for Writing (formerly *DISTAR Language III*) is the third level of three Direct Instruction language intervention programs. The program is designed to lay a foundation for communication skills, particularly written communication, and provide the support and scaffolding that helps struggling writers apply the skills in their own writing. *Language for Writing* provides 140 lessons that focus on the concepts and skills important to clear writing, including:

- Writing sentences and paragraphs
- Using correct grammar and punctuation
- Applying higher-order thinking
- Interpreting written text

Students who complete the *Language for Writing* program will have learned to analyze the structure of spoken and written sentences and to use these skills to write narratives, summarize, retell, and make comparisons.

Who Benefits from Language for Writing?

Language for Writing is designed to help students in Grades 2–5 who have been through *Language for Learning* and *Language for Thinking*. The *Language for Writing* program can also be used for students who:

- Have not been in the first two programs, if their scores on the placement test indicate they are ready for the third level
- May not have extensive experience with grammatical forms, word usages, and organizational skills that are tools for writing
- Tend to need more repetitions to apply academic language with accuracy and complexity in written form

Students placed in the program should be reading and writing at an end-of-Grade 2 or beginning-of-Grade 3 level and have adequate knowledge of conversational English.

After completing the *Language for Thinking* program, students are prepared to discern precise meaning, both literal and inferential, from text materials they encounter in and out of school.

III. Principles of High Quality Educational Tools Used in Direct Instruction Language Programs

Principles include:

- Big ideas, conspicuous strategies, mediated scaffolding, strategic integration, primed background knowledge, and judicious review (Kame’enui, Carnine, Dixon, Simmons, & Coyne, 2002)
- Best practices, as identified by Bos and Vaughn (2002), for teaching language to children
- Scripted presentations, group unison responding, continuous assessment and mastery, and error correction procedures (Watkins & Slocum, 2004)

Big Ideas

Big ideas are the core components (concepts) of a given instructional area (Kame’enui et al., 2002). Direct Instruction language programs use big ideas to identify the scope of what is presented. The content of the programs can be divided into three big ideas that can be efficiently taught through teacher-directed instruction:

- The language of instruction, including English grammatical structures, used by teachers in the classroom and found in text materials
- A body of background knowledge and new vocabulary
- Elements of logical reasoning, higher-order thinking, and organization

This content is then organized and sequenced into groups of related tasks, sometimes referred to as tracks. The goal for any level of the programs is to teach students skills that enable them to apply big ideas within a specific universe of content.

Program	Content
<i>Language for Learning</i>	<ul style="list-style-type: none"> • Actions • Description of objects • Information and background knowledge • Instructional words and problem-solving concepts • Problem-solving strategies and applications
<i>Language for Thinking</i>	<ul style="list-style-type: none"> • Information and background knowledge • Reasoning and critical thinking • Vocabulary development • Observing and describing • Comprehension concepts • Interpreting graphic displays
<i>Language for Writing</i>	<ul style="list-style-type: none"> • Grammar (including parts of speech) • Sentence constructions (statements, questions, commands) • Mechanics (capitalization and punctuation rules) • Critical thinking (deductions, definitions, analogies) • Writing (elements of clear narrative and expository prose)

Conspicuous Strategies

Conspicuous strategies involve the steps teachers take in making learning more explicit for students (Kame'enui et al., 2002). Explicit instruction is “a systematic method of teaching with emphasis on proceeding in small steps, checking for student understanding, and achieving active and successful participation by all students” (Rosenshine, 1987, p. 34).

This type of instruction can be summarized as unambiguous, clear, and *direct* teaching (Arrasmith, 2003). Teachers:

- Show students what to do (modeling)
- Give them opportunities to practice with teacher monitoring and feedback (guided practice)
- Provide opportunities for them to perform these skills on their own (independent practice)

Bos and Vaughn (2002) note the importance of *modeling* to demonstrate skills within *structured language programs that provide intensive practice and feedback* for students; they cite *Language for Learning* and the *DISTAR Language* programs as illustrative of effective structured oral language programs. Explicit instruction is evident in *Language for Thinking* and *Language for Writing* as well.

Mediated Scaffolding

Mediated scaffolding pertains to providing students support and assistance that is gradually reduced over time so they can eventually perform a skill on their own (Kame'enui et al., 2002).

Mediated scaffolding is built into all Direct Instruction language programs.

- Before students are asked to perform skills on their own, they are shown what to do by the teacher and then practice these skills with careful teacher monitoring and feedback.
- Only when students are successful during guided practice activities do they participate in activities on their own.

Strategic Integration

“Whenever possible, new strategies should build on what has been taught earlier” (Kame'enui et al., 2002, p. 13). This process is referred to as strategic integration.

Direct Instruction language programs use strategic integration at the very core of their instructional sequence.

- Content is organized so that each lesson introduces only a small amount of new material (about 10%).
- Everything taught in a lesson is consistent with what has been taught earlier.

- Each lesson provides additional practice on content introduced in the preceding one or two lessons.
- Part of each lesson has some form of cumulative review or applications that address skills and information presented in earlier lessons.

Thus, newly learned skills are mixed with well-practiced ones; difficult tasks are interspersed with easier ones (Watkins & Slocum, 2004). No skills are ever introduced and then dropped; they continue to be woven into other tracks to ensure skill maintenance and generalization.

Primed Background Knowledge

Primed background knowledge relates to developing prerequisite or background skills before more complex skills are taught (Kame'enui et al., 2002). Primed background knowledge and strategic integration of skills go hand in hand; thus, it is critical to ensure that students have requisite skills mastered before they tackle a more complex skill. Likewise, they should have opportunities to practice newly learned skills with previously learned ones.

The idea in Direct Instruction language programs is to design instruction so all students succeed. These programs ensure success by developing skills in small intervals from one lesson to the next. The content from one group of lessons to the next does not change drastically, even though more complex content is being introduced. The end result is that students learn how to apply newly acquired vocabulary and grammatical structures to more complex higher-order thinking skills.

Judicious Review

Optimizing the number, spacing, and timing of repetitions of a skill over time is the hallmark of judicious review. Judicious review enhances memory and fluency (Kame'enui et al., 2002); the more students practice a skill over time, the more likely they will be able to demonstrate it in the future.

Direct Instruction language programs include reviews that are sufficient in number, distributed over time, cumulative in skill complexity (moving from easier to more difficult), and varied to promote skill generalization. This type of systematic planning and teaching for generalization was noted as an important guideline for teaching language to students by Bos and Vaughn (2002).

Scripted Presentation

Scripts are tools designed to ensure consistency of instructional delivery by standardizing the wording teachers use, and to free teachers from designing, field testing, and refining instruction in every subject they teach (Watkins & Slocum, 2004). The scripts found in Direct Instruction language programs include carefully developed explanations, examples, and wording.

- Wording is clear and concise.
- Vocabulary is limited to what is necessary.
- The presentation assumes skills implied by what students have done earlier.

Each of these programs is field tested to ensure maximum student performance. Changes were made in the current programs based on this field testing when difficulties in instructional delivery, curricular design, or student performance were noted. In short, Direct Instruction language programs are engineered for student success.

Some teachers feel that scripted presentations hinder their creativity; however, the opposite is true. Teachers put life into scripted programs. According to Watkins and Slocum (2004),

“Teachers relate to the students through the words in the scripts. They are the source of warmth, excitement, and life in the presentation. They make the expected adjustments for individual differences among students. Teachers are the only ones who can motivate students with praise and other feedback on their work. They are the only ones who can adjust the pace to the needs of the group, allowing more time for tasks that are difficult for a particular group and moving more quickly through tasks that are easier. Teachers are the only ones who can play the critical roles of problem solver and decision maker, identifying problems in student learning and adjusting the instruction accordingly.”

Group Unison Responding

One way to obtain active student engagement is to call on individual students to provide answers. If the questions are relevant and well-placed, students practice well and teachers receive immediate feedback on student understanding of content (Watkins & Slocum, 2004).

However, these individual responses have limitations. When one student is responding, other students may not be paying attention. Further, the teacher obtains information on only one student — without knowing if the other students actually understood the question/material.

An alternative way to obtain student responses to ensure attention and skill acquisition, and to decrease behavior problems, is to use group unison responding. With group unison responding, students respond as one. Thus, students:

- Have opportunities to respond more and to receive feedback on their responses
- Do not have time to “go off task” given the rapid pacing and instructional requirements

Group unison responding is followed by individual questions to check for further student understanding.

Direct Instruction language programs provide an appropriate mix of group responses (85%) and individual turns (15%) to create an optimum learning environment (Marchand-Martella, Blakely, & Shaefer, 2004).

Continuous Assessment and Testing for Mastery

“It is important to monitor students’ progress toward program objectives continuously” (Watkins & Slocum, 2004).

Assessment is part of every Direct Instruction language lesson. For anything that is taught, the teacher provides a task to determine whether the students understand the content presented. Teachers monitor students’ performance and use the information to identify skills or information that needs to be remediated.

Further, mastery tests are provided after every 10 lessons in all Direct Instruction language programs.

- These assessments are designed to help teachers monitor students’ progress and provide feedback to the students about their learning.
- When these assessments are analyzed, teachers become data-based decision makers, determining if groups have mastered the concepts and skills taught in the program to that point or require re-teaching of specific concepts or practice of specific skills.
- This cycle of instruction, feedback, and re-teaching, when necessary, helps students experience success that instills confidence and motivation to continue learning.

Error Correction Procedures

One hallmark of an effective program is the use of specified error correction procedures (Watkins & Slocum, 2004). Direct Instruction language programs adhere to a general error correction procedure:

- Model — “My turn. This is a chair.”
- Lead — “Say it with me. This is a chair.”
- Test — “Your turn. Say the whole thing.”
- Re-test — Return to an earlier part of the exercise and represent the subsequent steps.

(See Waldron-Soler & Osborn, 2004 for other error correction procedures related to the language programs.)

IV. Alignment of Direct Instruction Language Programs with the Elements of Oral Language

Scientifically based language programs designed for students with fewer English language skills and those learning English as a second language should contain three functional components — form, content, and use — and five dimensions of oral language: phonology, morphology, syntax, content, and pragmatics (Meese, 2001; Owens, 2001). These are the tools for discourse, reading and writing, complex language, and cognitive processes. As students progress through different grades, the demand for complex language use in speaking, reading, and writing increases dramatically. Limitations leave many students unable to infer subtleties, discern irony, and comprehend relationships among ideas.

The forms/dimensions of oral language presented in Direct Instruction language programs begin with simple constructions and build in complexity.

Form

Language form consists of phonology, morphology, and syntax.

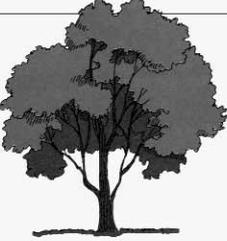
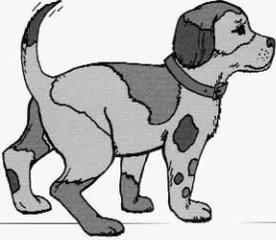
Phonology. Phonology is defined as “the aspect of language concerned with the rules governing the structure, distribution, and sequencing of speech sounds and the shape of syllables” (Owens, 2001, p. 22). The English language has approximately 44 phonemes or families of very similar sounds (Bos & Vaughn, 2002). For example, *cat* and *mat* each begin with a different phoneme (i.e., /c/ and /m/, respectively). Only the initial phoneme prevents the words *cat* and *mat* from being identical, yet the meanings of *cat* and *mat* are very different.

Direct Instruction language programs simultaneously develop speech and understanding of the English language. Although these programs are not specifically designed to address speech articulation issues with the sounds of the English language, students build phonological awareness, learn vocabulary, and acquire knowledge of English grammatical structures by focusing on oral language.



Figure 1 illustrates an example of modeling oral language in Lesson 1 of *Language for Learning*.

Figure 1

 a	 b
 c	 d

EXERCISE 4 Object Identification

- I'll tell you about these pictures.
 - (Point to a.) This is a tree.
 - (Point to b.) This is a shoe.
 - (Point to c.) This is a dog.
 - (Point to d.) This is a cat.

Example of modeling oral language in *Language for Learning*.

Students are also required to produce language in all lessons of Direct Instruction language programs. This method of instruction allows students to hear and practice using the 45 sound elements of the English language.

Figure 2 shows an example of how students are asked to produce language in Lesson 1 of *Language for Writing*. Students use this information about classes to classify words as parts of speech—noun, verb, adjective, and pronoun.

Figure 2

Exercise 1

Classification

- I'm going to name some objects. I'll tell what class the objects are in.
 - Listen: **house, school, barn, store, motel**. These objects are **buildings**.
 - What are they? (Signal.) *Buildings*.
 - Listen: **car, truck, bus, train, plane**. These objects are **vehicles**.
 - What are they? (Signal.) *Vehicles*.
 - Listen: **flower, tree, weed, bush, grass**. These objects are **plants**.
 - What are they? (Signal.) *Plants*.

Example of how students use language in *Language for Writing*.

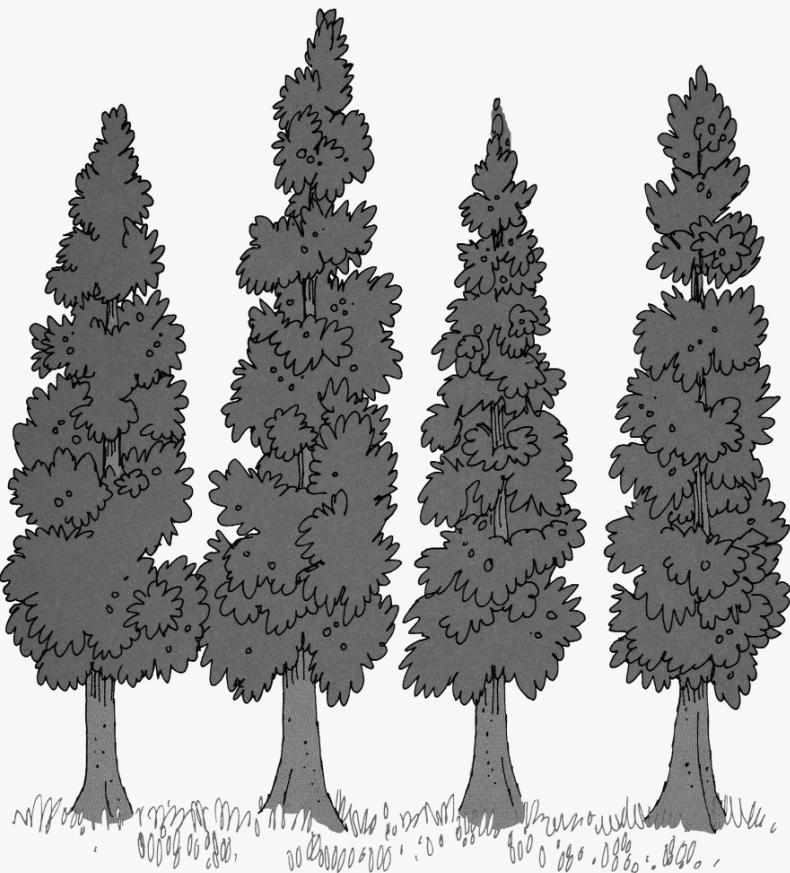
Morphology. Morphemes are the smallest grammatical units of language that carry meaning (Owens, 2001). They differ from phonemes in that phonemes do not convey meaning on their own. Morphology refers to the rules governing the organization of morphemes in words. There are two types of morphemes — free and bound. Free morphemes are independent and can be used alone. For example, *cover* is a free morpheme. Bound morphemes cannot be used alone and must be attached to free morphemes (e.g., *re*). Bound morphemes change the meaning of words when attached to free morphemes (e.g., *recover*).

Direct Instruction language programs teach students the internal organization of words (morphology) in a variety of exercises. *Language for Learning* includes action and picture exercises that teach students to recognize the difference between singular and plural nouns. Students learn how the addition of the morpheme /s/ changes the meaning of the word. Figure 3 illustrates an example from Lesson 55 of *Language for Learning* where students are taught to recognize whether they need to perform an action involving one or more than one part of the body.

Figure 3

EXERCISE 7 Plurals

1. Tell me if I touch treessss.
 - a. (Touch three trees at the same time.) Am I touching treessss? (Signal.) Yes.
 - b. (Touch one tree.) Am I touching treessss? (Signal.) No.
 - c. (Touch two trees at the same time.) Am I touching treessss? (Signal.) Yes.
2. (Repeat part 1 until all children's responses are firm.)
3. Watch.
 - a. (Touch one tree.) Am I touching treessss? (Signal.) No.
What am I touching? (Signal.) *A tree.*
Say the whole thing about what I am doing. (Signal.) *You are touching a tree.*
 - b. (Touch three trees.) Am I touching treessss? (Signal.) Yes.
What am I touching? (Signal.) *Trees.*
Say the whole thing about what I am doing. (Signal.) *You are touching trees.*
4. (Repeat part 3 until all children's responses are firm.)



Example of how students learn to recognize the meaning of the morpheme /s/ in *Language for Learning*.

In later exercises, students learn to use a singular or plural noun to describe one or multiple objects in a picture. Figure 4 shows an example from Lesson 62 of *Language for Learning* where students learn to use a singular or plural noun to describe an object.

Figure 4

EXERCISE 7 Plurals

Look at this picture.

- a. (Point to a boy.) What is this? (Touch.)
A boy.
Say the whole thing. (Touch.) *This is a boy.*
- b. (Point to all the boys at the same time.)
What are these? (Touch.) *Boys.*
Say the whole thing. (Touch.) *These are boys.*
- c. (Point to a girl.) What is this? (Touch.)
A girl.
Say the whole thing. (Touch.) *This is a girl.*
- d. (Point to all the girls at the same time.)
What are these? (Touch.) *Girls.*
Say the whole thing. *These are girls.*

Example of how students learn to use the morpheme /s/ to describe an object in *Language for Learning*.

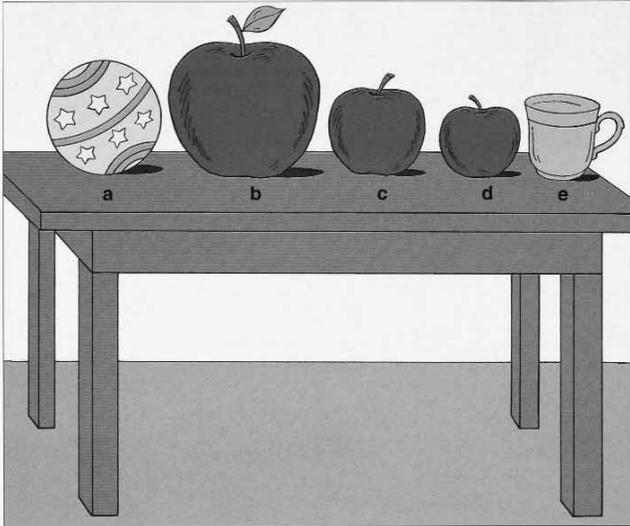
In comparative exercises in *Language for Learning*, students are taught to use words such as *bigger* and *smaller* to compare objects. In earlier lessons of *Language for Learning*, students learn to use the words *big* and *small* appropriately. The comparative exercises build on this skill and teach students how the new words are used when an additional morpheme /er/ is added. Figure 5 illustrates an example from Lesson 131 of *Language for Learning* where students learn to compare objects.

Figure 5

EXERCISE 7 Comparatives

1. Look at the picture.

- (Point to a.) What is this? (Touch.) *A ball.*
- (Point to b, c, and d.) What are these? (Touch.) *Apples.*
Say the whole thing. (Signal.) *These are apples.*
- (Point to e.) What is this? (Touch.) *A cup.*
- (Point to a and e.) Which is bigger, the ball or the cup? (Touch.) *The ball.*
Yes, the ball is bigger than the cup. Say that. (Signal.) *The ball is bigger than the cup.*
- (Repeat part 1 until all children's responses are firm.)



Example of how students learn to compare objects in *Language for Learning*.



This type of word manipulation continues into the *Language for Thinking* and *Language for Writing* programs. Students learn how the meanings of *big* and *small* change when the morphemes /est/ or /er/ are added. Figure 6 provides an example from Lesson 24 of *Language for Thinking* where students learn to determine if classes of objects are the smallest, next bigger, or the biggest.

Transfer is also enhanced by teaching language functions, such as comparison. The programs shape understanding beyond the examples presented in a given lesson because once students know how to compare, they can apply that skill to a range of contexts across content areas.

In comparative exercises in *Language for Learning*, students are taught to use words such as *bigger* and *smaller* to compare objects.

Figure 6

EXERCISE 2 Classification

1. You're going to learn about bigger classes and smaller classes.
 - a. Here's the rule: The bigger class has more kinds of things in it. Everybody, say that rule. Get ready. (Signal.) *The bigger class has more kinds of things in it.*
 - b. Listen to these classes: children, girls, baby girls. Everybody, say those three classes. Get ready. (Signal.) *Children, girls, baby girls.*
 - c. The biggest class is children. It has boys in it. It has girls in it, and it has baby girls in it. What's the biggest class? (Signal.) *Children.*
 - Are there girls in that class? (Signal.) *Yes.*
 - Are there baby girls in that class? (Signal.) *Yes.*
 - Are there boys in that class? (Signal.) *Yes.*
 - d. Say the three classes again. Get ready. (Signal.) *Children, girls, baby girls.*
 - Which class is the biggest? (Signal.) *Children.*
Yes, the biggest class is children.
 - e. The next biggest class is girls. It has girls and baby girls in it, but it doesn't have boys in it.
 - Say the three classes again. Get ready. (Signal.) *Children, girls, baby girls.*
 - Which class is the biggest? (Signal.) *Children.*

Example of how students learn to recognize the smallest, next bigger, and biggest classes in *Language for Thinking*.

Syntax. Syntax refers to the set of rules that governs the meaningful arrangement of words into sentences. Syntax dictates the grammatically acceptable relationships among sentence elements such as the subject, verb, and object (Owens, 2001).

Throughout each level of the Direct Instruction language programs, students are provided models of appropriate syntax and then are asked to use these sentences on their own. The sentences become increasingly complex as students are instructed in each level of the programs. For example, Figure 7 shows an exercise from Lesson 3 of *Language for Learning* where students initially learn to produce simple sentences like, “This is a boy.”

Figure 7

EXERCISE 2 Identity Statements

1. We're going to talk about a boy.
 - a. (Ask a boy in the group to stand up.)
Everybody, what is this? (Signal.) *A boy.*
Yes, a boy.
 - b. My turn. I can say the whole thing. This is a boy. Listen again. This is a boy.
 - c. Say the whole thing with me. (Signal. Respond with the children.) *This is a boy.*
 - d. Again. (Signal. Respond with the children.)
This is a boy.
(Repeat step d until all children are making the statement with you.)

Example of sentence production in an initial lesson of *Language for Learning*.

As lessons progress, new vocabulary is combined into longer phrases and sentences. By the end of *Language for Learning*, students are using sentences such as, “The rabbit jumped into the can.” Figure 8 illustrates an exercise with this level of syntax in Lesson 150 of *Language for Learning*.

Figure 8

EXERCISE 3 Common Information

1. Let's see how much information you remember.
 - a. What makes a vehicle move? (Signal.)
An engine.
Say the whole thing. (Signal.) *An engine makes a vehicle move.*
 - b. What do we call a person who brings your food in a restaurant? (Signal.) *A waiter.*
Say the whole thing. (Signal.) *A waiter is a person who brings your food in a restaurant.*
 - c. What do we call a place where vehicles are fixed? (Signal.) *A garage.*
Say the whole thing. (Signal.) *A garage is a place where vehicles are fixed.*
 - d. What do we call a person who fixes vehicles? (Signal.) *A mechanic.*
Say the whole thing. (Signal.) *A mechanic is a person who fixes vehicles.*

Example of sentence production in the final lesson of *Language for Learning*.

In *Language for Thinking*, students learn how to use the vocabulary and simple grammatical structures in more complex ways. Students begin with sentences such as, “It’s a container” and progress to sentences like, “A bird is an animal, but an airplane is not an animal.” Figure 9 shows a usage exercise from Lesson 141 of *Language for Thinking* requiring students to produce complex sentences using contractions.

Figure 9

b. (Point to everyone.)

- Do we eat applesauce with a toothpick? (Signal.) *No.*
- Say the statement with a contraction. (Signal.) *We don’t eat applesauce with a toothpick.*

c. (Point to a girl.)

- Do you eat applesauce with a spoon? (Signal.) *Yes.*
- Say the statement. (Signal.) *I eat applesauce with a spoon.*

d. (Point to two girls.)

- Do they eat applesauce with a spoon? (Signal.) *Yes.*
- Say the statement. (Signal.) *They eat applesauce with a spoon.* (Repeat part 2 until all responses are firm.)

Example of complex sentence production in *Language for Thinking*.

In *Language for Writing*, students learn to create compound sentences. Figure 10 illustrates the production of compound sentences in Lesson 84 of *Language for Writing*.

Figure 10

B. Write each sentence with one of the joining words shown. Remember the comma just before the joining word.

- It was cold [] the bear did not feel cold. or but
- She hurt her arm [] she had a sore knee. and but
- She didn’t go home [] she wasn’t in school. or but

Exercise 5
Words in Compound Sentences

(The students are not to write anything during part 1.)

- Find part B in your textbook. ✓

- You’ll write each sentence with the correct joining word. We’ll go over the sentences first.
 - Sentence 1. **It was cold blank the bear did not feel cold.**
 - What are the joining words for that sentence? (Signal.) *Or, but.*
 - Say the sentence with the right joining word. (Signal.) *It was cold, but the bear did not feel cold.*
 - Sentence 2. **She hurt her arm blank she had a sore knee.**
 - What are the joining words for that sentence? (Signal.) *And, but.*
 - Say the sentence with the right joining word. (Signal.) *She hurt her arm, and she had a sore knee.*
 - Sentence 3. **She didn’t go home blank she wasn’t in school.**
 - What are the joining words for that sentence? (Signal.) *Or, but.*
 - Say the sentence with the right joining word. (Signal.) *She didn’t go home, but she wasn’t in school.*

Example of compound sentence production in *Language for Writing*.

Content

Language content involves semantics.

Semantics. Semantics is the “system of rules governing the meaning of words and word combinations” (Owens, 2001, p. 23). Students must gain knowledge of vocabulary (e.g., words related to objects such as dog, shoe, hat) so they accurately understand and use labels for items and events. Semantic knowledge also includes concept development and categorization. For example, students must learn the difference between the concepts *same* and *different*, as well as the rule (e.g., “If it takes you places, it is a vehicle”) that puts a plane and car in the same class (e.g., vehicles). Knowledge of antonyms and synonyms is also a part of semantic knowledge. For example, students must learn that substituting the word *finish* with *end* in the sentence, does not change the meaning of the sentence “The class will finish at noon.” Finally, Meese (2001) stated that students should learn that word meaning can change depending on the context of the sentence (e.g., “Mary will *run* for office,” “Juan can *run* fast”) or whether the words are being used figuratively (e.g., “Would you run that by me again?”).

Semantic knowledge can also be described in terms of receptive and expressive semantics. Receptive semantics refers to language comprehension, while expressive semantics refers to using language following the rules that govern the meaning of words and word combinations. It is important that students learn to understand and use words and word combinations accurately.

Language for Learning, *Language for Thinking*, and *Language for Writing* explicitly teach students to understand and use words and word combinations through exercises representing the different aspects of semantic knowledge (vocabulary, concept development, classification, antonyms, synonyms, and connotative meaning by context).

Language for Learning teaches vocabulary, concept, and classification skills. For example, Figure 11 illustrates how students are taught appropriate labels for parts of the body in Lesson 4 of *Language for Learning*.

Figure 11

EXERCISE 1 Actions – Following Directions and Body Parts

1. My turn. I can touch my nose. Watch. (Touch your nose.)
I can touch my head. Watch. (Touch your head.)
 - a. Everybody, stand up. (Signal. The children are to stand up.)
Everybody, touch your head. (Signal. Wait.) ●
Everybody, sit down. (Signal. Wait.)
Everybody, touch your nose. (Signal. Wait.)
Everybody, put your hand down. (Signal.)
 - b. (Repeat step a until all children respond to your signal.)
2. Let's do these actions again.
 - a. Everybody, stand up. (Signal.) What are you doing? (Signal.) *Standing up.*
 - b. Everybody, touch your head. (Signal.)
What are you doing? (Signal.) *Touching my head.* ▲
Everybody, put your hand down. (Signal.)
 - c. Everybody, sit down. (Signal.) What are you doing? (Signal.) *Sitting down.*
 - d. Everybody, touch your nose. (Signal.)
What are you doing? (Signal.) *Touching my nose.*
Everybody, put your hand down. (Signal.)
3. Let's do those actions one more time.
(Repeat part 2 until all children can perform the actions and say what they are doing.)

Example of vocabulary development in *Language for Learning*.

Language for Thinking builds the semantic knowledge of students through exercises on synonyms, opposites, definitions, verb tense, usage, superlatives, and homonyms. Figure 12 shows how students are taught synonyms in Lesson 31 from *Language for Thinking*.

Figure 12

EXERCISE 5 Synonyms

1. What do we call two words that mean the same thing? (Signal.) *Synonyms*.
2. Listen. The chicken is skinny. Say that. (Signal.) *The chicken is skinny*.
 - a. Make up a new statement with a synonym for **skinny**. (Pause.) Get ready. (Signal.) *The chicken is thin*.

Example of an exercise on synonyms in *Language for Thinking*.

Language for Writing increases students' semantic knowledge through exercises of definitions, synonyms, and antonyms. Figure 13 illustrates how *Language for Writing* teaches the definitions of general and specific directions in Lesson 32.

Full understanding of syntax and semantics requires competence in comprehending and generating different parts of speech in different sentence structures. As illustrated in these examples, Direct Instruction language programs develop specific language functions (describing actions, locations, or things) within larger functions (relating information), which carry distinct linguistic demands. This ensures that students learn accurate and appropriate use of a full range of grammatical forms essential to academic success.

Figure 13

A. Read each item. Circle the direction that gives you more choices.

<ol style="list-style-type: none"> 1. Touch the screwdriver. Touch a tool. 2. Look at the robin. Look at the bird. 3. Look at the animal. Look at the fish. 	<ol style="list-style-type: none"> 4. Sit next to an animal. Sit next to a cat. 5. Draw a picture of a train. Draw a picture of a vehicle. 6. Draw a picture of a basket. Draw a picture of a container.
--	---

Exercise 1 Classification

(The students are not to write anything during part 1.)
Open your workbook to lesson 32. Find part A. ✓

1. There are no pictures for these items. So you'll have to think about the choices you have. Each item has two directions. One direction gives you more choices than the other.
 1. Item 1. The first direction is: **Touch the screwdriver**. Say it. (Signal.) *Touch the screwdriver*.
The other direction is: **Touch a tool**. Say it. (Signal.) *Touch a tool*.
 - Which direction gives you more choices? (Signal.) *Touch a tool*.
 2. Item 2. The first direction is: **Look at the robin**. Say it. (Signal.) *Look at the robin*.
The other direction is: **Look at the bird**. Say it. (Signal.) *Look at the bird*.
 - Which direction gives you more choices? (Signal.) *Look at the bird*.
 3. Item 3. The first direction is: **Look at the animal**. Say it. (Signal.) *Look at the animal*.
The other direction is: **Look at the fish**. Say it. (Signal.) *Look at the fish*.
 - Which direction gives you more choices? (Signal.) *Look at the animal*.

Example of an exercise of the definitions of general and specific direction in *Language for Writing*.

Use

Language is used in formal or informal settings and for social or academic purposes. Social purposes include expressing needs and wants, indicating agreement or disagreement, and participating in personal conversations. Academic purposes include asking and answering informational questions, relating information, comparing, contrasting, drawing conclusions, summarizing, and evaluating.

Pragmatics. Pragmatics is the set of rules for the English language governing how language is used to communicate. The American Speech-Language-Hearing Association (ASHA) (2004) identifies the following three communication skills as components of pragmatics:

- Using language to achieve different communicative functions (e.g., demanding, requesting, and relating information)
- Adapting or changing language according to the context within which it is being used (i.e., the needs or expectations of a listener or situation)
- Abiding by the rules for conversations or narrative (e.g., pausing to allow the listener to respond, rephrasing, facial expressions)

Direct Instruction language programs teach students how to use language for a variety of communicative purposes through a lens of academic meaning and use. For example, verbs are taught so students can retell, comparative adjectives so they can compare, and conditional reasoning so they can hypothesize.

In early lessons, *Language for Learning* teaches students to use language to identify objects (e.g., “This is a boy”). In later lessons of *Language for Learning*, students are taught to use language to describe the actions of the teacher and themselves, which requires them to know how to use parts of speech, particularly verbs, nouns, and prepositions.

Figure 14 illustrates an exercise from Lesson 23 of *Language for Learning* where students use language this way.

Figure 14

EXERCISE 1 Actions – Pronouns

1. I'll show you how I smile. Watch. (Smile.)
Your turn. Everybody, smile. (Signal.)
2. Get ready to do some other actions.
 - a. Everybody, stand up. (Signal. Wait.)
What are you doing? (Signal.) *Standing up.*
Say the whole thing. (Signal.) *I am standing up.*
 - b. Everybody, smile. (Signal. Wait.)
What are you doing? (Signal.) *Smiling.*
Say the whole thing. (Signal.) *I am smiling.*
 - c. Everybody, sit down. (Signal. Wait.)
What are you doing? (Signal.) *Sitting down.*
Say the whole thing. (Signal.) *I am sitting down.*
 - d. (Repeat part 2 until all children's responses are firm.)

Example of an exercise describing actions in *Language for Learning*.

Direct Instruction language programs teach students how to use language for a variety of communicative purposes.

Language for Thinking builds on skills developed in *Language for Learning* and teaches students to use language to describe their actions as well as pictures and actions in pictures, to identify sequences of events, to compare, and to report on pictures. The function of describing requires that students use appropriate nouns, pronouns, verbs, adverbs, prepositional phrases, and words in sequence. Figure 15 shows an exercise from Lesson 118 of *Language for Thinking* where students use language to report on a picture.

Figure 15



EXERCISE 6 Description

- We're going to describe a girl. I'm going to tell you three things about the girl.
 - (Hold up one finger.) Listen. She is frowning. Everybody, say that. (Signal.) *She is frowning.*
 - (Hold up two fingers.) Listen. She has short hair. Everybody, say that. (Signal.) *She has short hair.*
 - (Hold up three fingers.) Listen. She has a ribbon in her hair. Everybody, say that. (Signal.) *She has a ribbon in her hair.*

Yes, the girl we're looking for is frowning, she has short hair, and she has a ribbon in her hair.

Example of an exercise reporting on pictures in *Language for Thinking*.

In *Language for Writing*, students are taught to make oral statements, questions, and commands. In later exercises, these skills are applied to different writing tasks. Figure 16 illustrates an exercise from Lesson 20 of *Language for Writing* where students are taught to use language to make a statement or question.

Figure 16

Exercise 1
Statement/Question

- Here are two kinds of sentences.
 - Listen. His sister can jump rope.
 - Say it. (Signal.) *His sister can jump rope.*
 - Listen. Can his sister jump rope?
 - Say it. (Signal.) *Can his sister jump rope?*
 - One of those sentences **asks a question** about his sister. One of those sentences **tells about** his sister.
 - Listen to the sentences again. His sister can jump rope. Can his sister jump rope?
 - Which sentence **tells about** his sister? (Signal.) *His sister can jump rope.*
That sentence tells about his sister.
 - Listen to the sentences again. His sister can jump rope. Can his sister jump rope?
 - Which sentence **asks a question** about his sister? (Signal.) *Can his sister jump rope?*
That sentence asks a question about his sister.

(Repeat part 1 until all responses are firm.)

Example of an exercise on statements and questions in *Language for Writing*.

In summary, by building competence in a range of functions, Direct Instruction language programs equip students to participate in content instruction and support academic language proficiency. Language becomes a vehicle, rather than a barrier, to learning.

V. Importance of Written Language

Writing is perhaps the most complex of all the language skills that students must learn (Hall, Salas, & Grimes, 1999; Harris, Schmidt, & Graham, 1998). Written language skills are highly correlated with reading performance. Additionally, students with low written language skills may struggle in the classroom and perform poorly on high-stakes tests. The following sections describe the relationship between written language skills and reading, academic achievement, and high-stakes testing.

Written Language and Reading

Research suggests a relationship between writing and reading performance (Adams, 1990; Isaacson, 1994; Snow et al., 1998).

- Tierney and Shanahan (1991) reviewed several studies investigating this relationship. The authors concluded that although the exact nature of the relationship is not clear, writing and reading are related. When students perform well in writing, they tend to perform well in reading, and vice versa.
- Raphael and Englert (1990) also illustrated the relationship between writing and reading skills. They implemented a program that incorporated reading instruction with four Grade 5 students. Specifically, the authors taught the students to analyze text structures as they read. The writing performance of these students greatly improved by the end of the study.

Written Language and Academic Achievement

Writing is an essential skill for successful school performance (Harris et al., 1998; Fredrick & Steventon, 2004). It is a primary form of communication in the classroom.

- Students must use writing skills to take notes from class activities (e.g., lectures and discussions) and demonstrate their understanding of material taught in the classroom (e.g., writing answers to questions posed by the teacher or answers to a test).
- Students also use their writing skills to learn new skills introduced in the classroom. For example, students often are taught to write answers to textbook chapter questions as a way to prepare for an exam.

Written Language and High-Stakes Testing

The majority of states now include a writing component in their state tests.

- In fact, 49 of the 50 states require a measure of writing competency for high school graduation or include writing assessments as part of statewide testing (State Assessment Services State Assessment Advisor, 2002).
- The SAT added a writing component that is one-third of the total SAT score beginning in 2005.
- Perhaps even more important, writing continues to be an ever-increasing skill used in the workplace (Agnew, 1992; Fredrick & Steventon, 2004). Many jobs require writing reports, taking notes related to job activities, and/or communicating through e-mail with colleagues and/or other concerned parties.

Students with low written language skills are clearly at a disadvantage in the classroom compared to peers who have fluent writing skills.



VI. Alignment of Language for Writing with the Elements of Written Language

This section describes how *Language for Writing* aligns with four key areas of written language (i.e., oral language, the secretary and author roles of writing, the writing process, and text structures). It also outlines the ways these principles are incorporated within the *Language for Writing* program.

Oral Language

Research has shown that performance on writing tasks improves when students are taught a variety of oral language skills (Englert, Raphael, Anderson, Anthony, & Stevens, 1991; Stuart, 1999).

- For example, Englert et al. found that expository writing improved when students were instructed with a writing program that promoted the use of oral language.
- Stuart investigated the relationship between phonemic awareness language skills and reading and spelling. Students instructed with a phonemic awareness language program made greater improvements in reading and spelling than children in a control group.

These results suggest that oral language skill instruction improves the acquisition of reading and writing skills.

Recognizing that oral language skills are related to writing performance, *Language for Writing* addresses oral language development throughout each lesson. *Language for Writing* provides opportunities for students to practice applying grammatical rules and language mechanics, constructing sentences, and making inferences in both spoken and written forms. Figure 17 shows an oral language exercise from Lesson 2 of *Language for Writing* where students are learning to identify synonyms and antonyms.

Figure 17

Exercise 3

Opposites

We're going to talk about opposites.

1. Listen to these words: **thin, fat**. Those words are **opposites**.

- Everybody, what are those words? (Signal.) *Opposites*.

Thin is not the same as **fat**. **Thin** is the opposite of **fat**.

2. Listen to these words: **thin, skinny**. Those words are not opposites. They mean the same thing.

3. Listen to these words: **old, young**.

- Everybody, are those words **opposites**, or do they mean the same thing? (Signal.) *Opposites*.

Old is not the same as **young**. **Old** is the opposite of **young**.

4. Listen to these words: **shout, yell**.

- Everybody, are those words **opposites**, or do they mean the same thing? (Signal.) *They mean the same thing*.

Shout means the same as **yell**.

(Repeat parts 1 through 4 until all responses are firm.)

Example of an exercise on synonyms and antonyms in *Language for Writing*.

When initially learning many skills, students practice them aloud with guidance from the teacher before independently applying them in written form. *Language for Writing* links oral language skills with written language tasks by requiring students to analyze language structures in both forms. For example, Figure 18 shows how students first practice changing statements into questions aloud with teacher support in Lesson 39 of *Language for Writing*.

Figure 18

Exercise 1
Changing Statements/Questions

1. Listen to this sentence.
 - a. The brown dog is barking.
 - Say it. (Signal.) *The brown dog is barking.*
 - What kind of sentence is that? (Signal.) *A statement.*
 - b. Now I'll make up a question using the same words.
 - Listen. Is the brown dog barking?
 - Say it. (Signal.) *Is the brown dog barking?*
 - c. I'll say the statement. You say the question with the same words.
 - Listen. The brown dog is barking.
 - Say the question. (Signal.) *Is the brown dog barking?*

(Repeat part 1 until all responses are firm.)
2. I'll say some more statements. You say the questions with the same words.
 - a. Listen. The dog was eating.
 - Say the question with the same words. (Signal.) *Was the dog eating?*
 - b. Listen. Those dogs were sleeping.
 - Say the question. (Signal.) *Were those dogs sleeping?*
 - c. Listen. Four cats were sleeping.
 - Say the question. (Signal.) *Were four cats sleeping?*

Example of an exercise on statements and questions in *Language for Writing*.

After practicing this skill aloud, students practice writing questions from statements, with teacher support. Figure 19 illustrates how students are asked to write questions from statements in Lesson 39 of *Language for Writing*.

Figure 19

A. Write each statement as a question.

1. Statement: Those dogs were sleeping.
Question: _____
2. Statement: The toys are in the box.
Question: _____
3. Statement: This string did break.
Question: _____

Exercise 2
Changing Statements/Questions

(The students are not to write anything during part 1.)

1. Everybody, open your workbook to lesson 39. Find part A. ✓
 - You will write each statement as a question.
 1. I'll read the statement in item 1. **Those dogs were sleeping.**
 - Say the question that has the same words. (Signal.) *Were those dogs sleeping?*
 2. I'll read the statement in item 2. **The toys are in the box.**
 - Say the question that has the same words. (Signal.) *Are the toys in the box?*
 3. I'll read the statement in item 3. **This string did break.**
 - Say the question that has the same words. (Signal.) *Did this string break?*

Example of an exercise on statements and questions in *Language for Writing*.

In later lessons, teacher support decreases and students practice changing statements into questions in written form on their own.

Secretary and Author Roles of Writing

There has been much debate about whether writing instruction should focus on technical skill development, such as grammar and writing mechanics, or the content of writing (Weaver, 1996). Kame'enui et al. (2002) refer to these instructional domains as the skills-dominant and composition-dominant approaches. The skills-dominant approach focuses on the secretary role of writing (mechanics of writing), while the composition-dominant approach focuses on the author role of writing (content).

There is little empirical evidence showing that the use of either approach in pure form results in clear writing. Students will not master written language until they can independently function in both roles. When students struggle with writing mechanics, they also tend to struggle with the author role of writing (Isaacson, 1994). The burden of poorly developed writing mechanics may cause students to focus so much energy on this aspect of writing that the content of their writing is compromised (Englert et al., 1988). However, the assumption that instruction of writing mechanics will result in improved composition is as faulty as the assumption that instruction in composition will result in grammatically accurate writing. Rather, research suggests that parallel instruction in both roles (secretary and author) is most effective (Kame'enui et al., 2002).

Language for Writing provides opportunities for students to practice the skills required of the author and secretary roles of writing. Each *Language for Writing* lesson includes several exercises in grammar, sentence construction, writing mechanics, and critical thinking. As each grammatical and mechanical rule is learned, students are asked to use it in various writing tasks. For example, students are taught to analyze the structure of sentences. They learn to identify parts of sentences such as the subject and the verb. As students learn to identify different parts of sentences, they are asked to construct sentences using these parts.

Figure 20 shows how students learn about verbs in Lesson 51 of *Language for Writing*.

Figure 20

Exercise 1

Verbs

1. We're going to talk about verbs. Every sentence has a verb. The verb is always in the predicate. It's usually the first part of the predicate.
 - Everybody, is the verb ever in the subject? (Signal.) *No.*
 - Is the verb always in the predicate? (Signal.) *Yes.*
 - Where do you usually find it in the predicate? (Signal.) *In the first part of the predicate.*

(Repeat part 1 until all responses are firm.)

2. Now I'm going to say some sentences.

|| To correct: Repeat any items that give the students trouble.

- a. Listen. That boy jumped in the water.
 - Say it. (Signal.) *That boy jumped in the water.*
 - What's the subject? (Signal.) *That boy.*
 - What's the predicate? (Signal.) *Jumped in the water.*
 - What's the first word in the predicate? (Signal.) *Jumped.*
That's the verb.
- b. Listen. Those cats have short tails.
 - Say it. (Signal.) *Those cats have short tails.*
 - What's the subject? (Signal.) *Those cats.*
 - What's the predicate? (Signal.) *Have short tails.*
 - What's the first word in the predicate? (Signal.) *Have.*
That's the verb.

Example of an exercise on verbs in *Language for Writing*.

Other exercises teach students to discriminate among statements, questions, and commands. Once students can make this discrimination, they are asked to convert questions into statements and statements into questions. Figure 21 illustrates how students practice converting questions into sentences and statements into questions in the same exercise from Lesson 40 of *Language for Writing*.

Figure 21

Exercise 1
Changing Statements/Questions

1. Everybody, I'm going to say some sentences. When I say a statement, you say the question with the same words. When I say a question, you say the statement with the same words.
2. Here are the statements and questions.
 - a. Listen to this statement: He is talking.
 - Say the **question** that has the same words. (Signal.) *Is he talking?*
 - b. Listen to this statement: The brown cow was hungry.
 - Say the **question** that has the same words. (Signal.) *Was the brown cow hungry?*
 - c. Listen to this question: Is he talking?
 - Say the **statement** that has the same words. (Signal.) *He is talking.*
 - d. Listen to this question: Was the brown cow hungry?
 - Say the **statement** that has the same words. (Signal.) *The brown cow was hungry.*
 - e. Listen to this statement: They are cutting the grass.
 - Say the **question** that has the same words. (Signal.) *Are they cutting the grass?*
 - f. Listen to this question: Are the birds singing?
 - Say the **statement** that has the same words. (Signal.) *The birds are singing.*

(Repeat part 2 until all responses are firm.)

Example of an exercise on converting questions into sentences and statements into questions in *Language for Writing*.

In later lessons, students are asked to write detailed instructions for completing simple tasks such as washing dishes. Figures 22a–b illustrate how they learn to write instructions for washing dishes in Lesson 111 of *Language for Writing*.

Figure 22a

A. The dishwasher is broken, so Zirk has to wash the dishes by hand. Here are the first two instructions to Zirk for washing the dishes by hand.

- Put the dirty dishes in the kitchen sink.
- Fill the sink with hot water.

Write at least four more instructions to Zirk so he can finish washing the dishes by hand.

detergent
sponge
rinse
drying rack

Example of an exercise on writing instructions in *Language for Writing*.

Students are given additional opportunities to improve skills required of the secretary and author roles of writing when given feedback about their writing. In addition to the content of their written work, students are held accountable for grammar and mechanical skills taught in previous lessons.

Writing Process

The process of writing consists of three to four basic steps: planning, drafting, editing/revising, and publishing (Gersten & Baker, 2001; Kame'enui et al., 2002). Sometimes publishing is not included as part of this process, however. From a meta-analysis of research on teaching expressive writing to students with disabilities, Gersten and Baker found students' writing performance improved when they were explicitly taught each step of the writing process. Further, evidence suggests that this process should be divided into discrete steps with each step taught separately. These steps can then be integrated into the whole process (Graham & Harris, 1988; Hull, 1987; Isaacson, 1990).

Language for Writing provides students with skills practice necessary for the steps of the writing process. For example, before many of the writing activities, students are asked to brainstorm ideas about what they might write and then share these ideas verbally with the rest of the group. Once these ideas are shared, each student is asked to complete the writing task independently. Teachers provide feedback to students during and after their writing. Students are then asked to make any necessary corrections.

Figure 22b

Exercise 5

Writing Instructions

- Everybody, open your textbook to lesson 111. Find part A. ✓
- 1. I'll read the paragraph in part A.
The dishwasher is broken, so Zirk has to wash the dishes by hand. Here are the first two instructions to Zirk for washing the dishes by hand.
 - Put the dirty dishes in the kitchen sink.
 - Fill the sink with hot water.
- 2. What will Zirk need to put into the hot water? (Call on a student. Ideas: *Detergent; soap.*)
 - What tool will Zirk use to clean the dishes? (Call on a student. Ideas: *A sponge; a scrubbing pad; a brush.*)
 - How will Zirk get the soap off the clean dishes? (Call on a student. Idea: *By rinsing them in clean water.*)
 - Where will Zirk put the dishes to dry? (Call on a student. Ideas: *In a drying rack; in a dish rack.*)
- 3. I'll read the instructions. *Write at least four more instructions to Zirk so he can finish washing the dishes by hand.*
 - You may want to use words in the word box. Follow along as I read them.

detergent	sponge	rinse
	drying rack	

- Everybody, write the last four instructions to Zirk.
- Write about adding the detergent, using the sponge, rinsing the dishes and putting the dishes in the drying rack. (Observe students and give feedback.)

Example of an exercise on writing instructions in *Language for Writing*.

Figure 23 shows how they share ideas about completing a story before being asked to write in Lesson 117 of *Language for Writing*.

Figure 23

Exercise 4

Completing a Story

- Everybody, open your textbook to lesson 117. Find part A. ✓
- 1. I'll read the instructions. *Copy the sentences on your paper. Then complete the story. Write at least three paragraphs.*
 - (Call on a student to read the sentences.) *"Get into the lifeboats," shouted the captain. "We're starting to sink."*
- 2. Let's talk about what could happen in the rest of the story.
 - What kind of ship is the captain on? (Call on individual students. Ideas: *An ocean liner; an aircraft carrier; a big sailboat.*)
 - Why is the ship starting to sink? (Call on individual students. Ideas: *It hit an iceberg; it blew over in a storm; it ran into a big rock.*)
 - What will happen to the people after they get into the lifeboats? (Call on a student. Idea: *They will have to wait for help.*)
- 3. Copy the sentences and write your story. Write at least three paragraphs. Remember to start a new paragraph each time the next person talks. (Observe students and give feedback.)

Example of an exercise on completing a story in *Language for Writing*.

Language for Writing includes other exercises that help develop the skills needed for each step of the writing process. For example, during Lessons 111–120 students participate in proofreading activities. Figure 24 illustrates how they are asked to correct wording and punctuation errors in a paragraph and then rewrite the paragraph in a proofreading exercise in Lesson 132 of *Language for Writing*.

Figure 24

- A. Correct the errors in the paragraph. It has 7 errors. All sentences should be in the past tense.

We had a big storm last night. The rain fell, the thunder boom and the lightning flash. many people and animals get wet. We left the windows down on our car, so the car seats get wet too. We couldn't sits down in the car until the seats dried. what a mess.

Exercise 1 Proofreading

- Everybody, open your workbook to lesson 132. Find Part A. ✓
- I'll read the instructions. *Correct the errors in the paragraph. It has 7 errors. All sentences should be in the past tense.*
 - (Call on a student to read the first sentence of the paragraph.) *We had a big storm last night.*
 - Everybody, does that sentence have any errors? (Signal.) No.
 - There are no errors in that sentence, so you don't have to make any changes.
 - (Call on a student to read the second sentence.) *The rain fell, the thunder boom and the lightning flash.*
 - Everybody, does that sentence have any errors? (Signal.) Yes.
 - What's the first error? (Call on a student. Idea: *The word boom should be boomed.*)
 - What's the next error? (Call on a student. Idea: *The word flash should be flashed.*)
 - Everybody, draw a line through those two words and write the correct words above them.
(Observe students and give feedback.)
 - (Call on a student to read the third sentence.) *many people and animals get wet.*
 - Everybody, does that sentence have any errors? (Signal.) Yes.
 - What's the first error? (Call on a student. Idea: *The word many should be capitalized.*)
 - What's the next error? (Call on a student. Idea: *The verb get should be got.*)

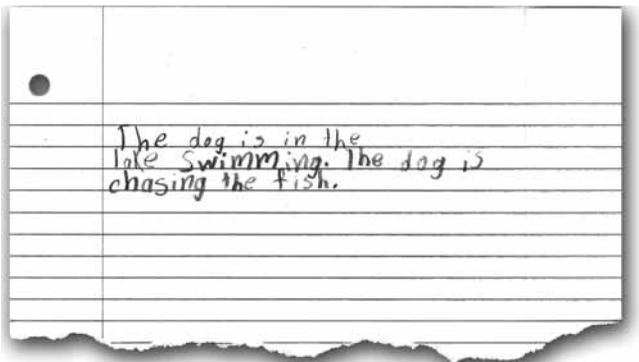
Text Structures

Another important element of writing instruction involves text structures. Text structures are patterns that students use to organize important information communicated in their writing. Each text structure has its own set of structural characteristics.

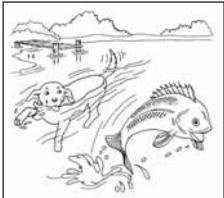
- Kame'enui et al. (2002) note the example of stories. Stories typically include a protagonist, a crisis, developing incidents, and a resolution.
- Further, research suggests that it is beneficial to teach a few text structures until the skills are mastered rather than simply expose students to many types of text structures (Englert et al., 1991).

Students master several text structures in the *Language for Writing* program including stories, instructions, and comparisons. The characteristics of each text structure are explicitly taught through the use of examples and non-examples. Figures 25a–e show examples of instruction that indicate what students will write about, what tense they will use, what kind of paragraphing is required, and the specific sentence forms they must use.

Figure 25a



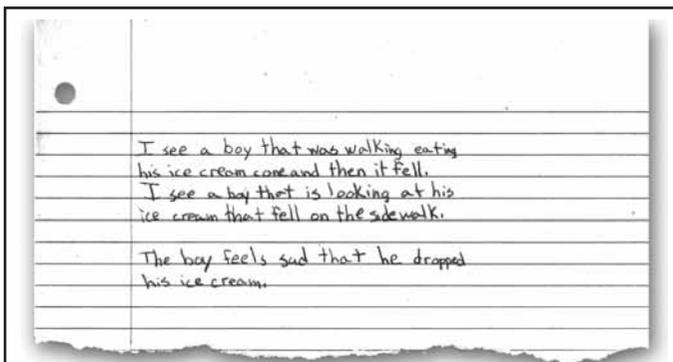
Lessons 11-20



Early lessons focus on the most basic writing skills. Here, students are asked to write two sentences describing the action in the picture. Their first sentence is to tell where the dog is, and the second sentence is to tell what the dog is doing.

Example of an exercise on describing action in *Language for Writing*.

Figure 25b



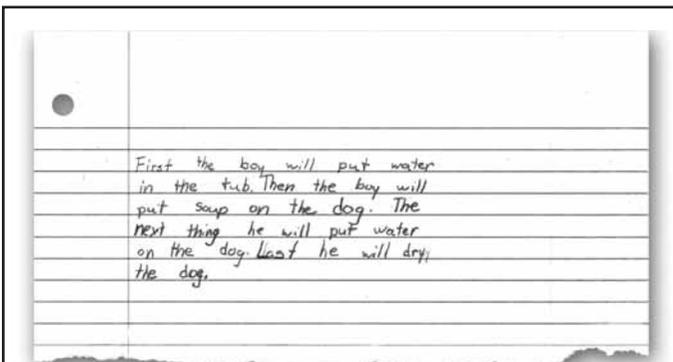
Lessons 31-40



Students have to write at least two sentences about the picture, with one sentence describing the boy's feelings, which requires an inference by the student.

Example of an exercise on describing feelings in *Language for Writing*.

Figure 25c



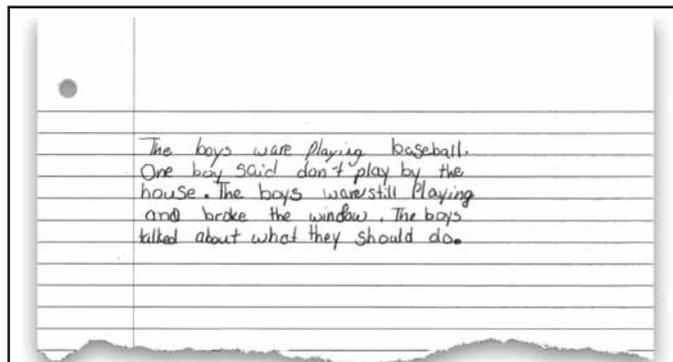
Lessons 41-50



Here, the instructions are more general. Students are told only to write three sentences about what the boy will do. At this point, student writing begins to show varying sophistication, as with this paragraph using transitional words.

Example of an exercise on describing sequential actions in *Language for Writing*.

Figure 25d



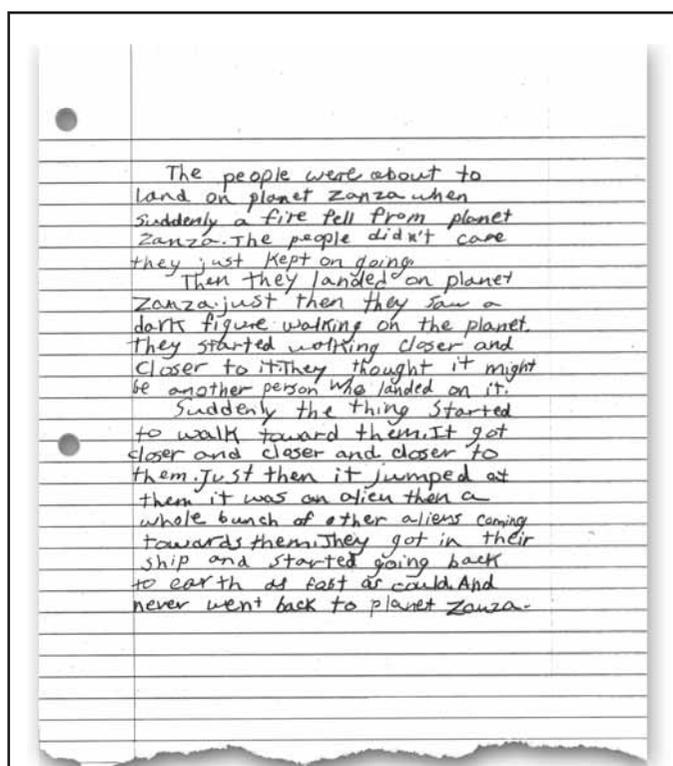
Lessons 71-80



At this stage, students are writing three or more sentences telling what happened before the event in the picture, requiring the ability to sequence events logically.

Example of an exercise on describing event sequence in *Language for Writing*.

Figure 25e



Lessons 125

By the end of the program, students are writing multi-paragraph stories without picture prompts. The instructions tell students to write at least three paragraphs from the writing prompt: "From far away, the planet Zanza looks like a bright yellow ball. The people on the spaceship thought it would be a good place to land."

Example of an exercise on continuing a story from *Language for Writing*.

VII. Studies on Direct Instruction Language Programs

“Research evidence is essential for identifying effective educational practices. Research, when it is based on sound scientific observations and analyses, provides reliable information about what works, why, and how it works. This information is essential to designing effective instruction and in demonstrating that it is, in fact, effective. Responsible decisions about what is good for students, therefore, require scientific evidence” (Reyna, 2004, p. 47).

In a climate where accountability has never counted more, Direct Instruction language programs are carefully structured to ensure success. Seventeen studies have been published in peer-reviewed journals, 16 of which were group design studies (pre-experimental, quasi-experimental, experimental) and one of which was single case (A-B). All examined the effectiveness of one or more of the Direct Instruction language programs across a wide variety of settings and populations. All studies are described in the narrative. Only the results of those investigations that isolated the effects of a Direct Instruction language program and used a control or comparison group are shown graphically (N = 8).

All investigations were selected using the First Search, ERIC, Psych INFO, Education Abs, and ProQuest databases. Descriptors included the following: Direct Instruction, direct instruction, *DISTAR Language*, *DISTAR Language I*, *DISTAR Language II*, *DISTAR Language III*, *Language for Learning*, *Language for Thinking*, *Language for Writing*, language instruction, language development, expressive and receptive language development, and explicit instruction. Ancestral searches of reference lists were used to identify other possible research articles. In addition, hand searches were done of the following peer-reviewed journals: *ADI News*, *Effective School Practices*, and *Journal of Direct Instruction*.

The following section describes published research on the Direct Instruction language programs. The studies are grouped according to the population with whom the program(s) was implemented (i.e., students without disabilities [N = 7], students with disabilities [N = 8], students with and without disabilities [N = 2]).



In a climate where accountability has never counted more, Direct Instruction language programs are carefully structured to ensure success.

Students in General Classrooms

Seven studies were found that examined the effectiveness of Direct Instruction language programs with students in general classrooms. Table 1 shows these investigations.

Table 1 — Characteristics of studies investigating Direct Instruction language programs with students in general classrooms

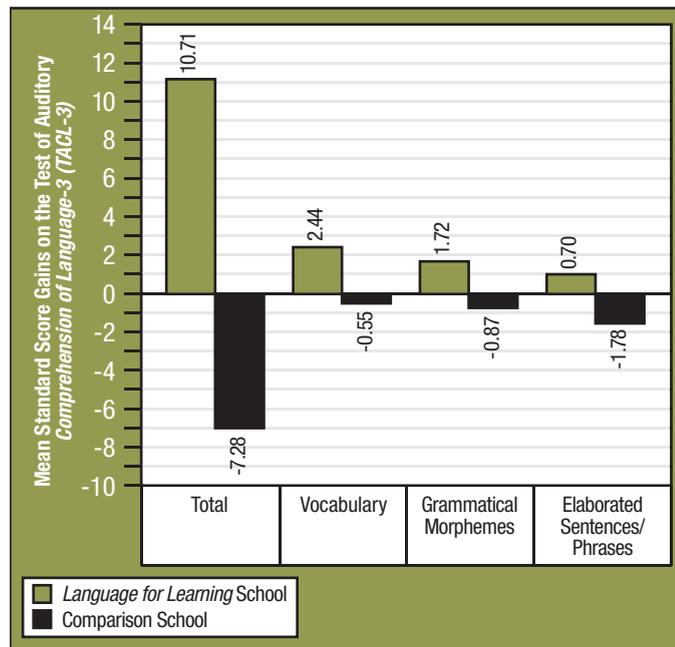
Study	DI Program	n	Participants	Research Design	Research Purpose	Intervention Details	Outcome Measures	Findings
Benner, Trout, Nordness, Nelson, Knobel, Epstein, Maguire, Birdsell, & Epstein (2002)	<i>Language for Learning</i>	45 (21 in <i>Language for Learning</i> , 24 in comparison)	Kindergarten children (ages 5.50 years for <i>Language for Learning</i> group and 5.61 years for comparison group)	Quasi-experimental — Nonequivalent control group design	Determine the relative effects of the <i>Language for Learning</i> program compared to the present language development program provided to Kindergarten children.	<i>Language for Learning</i> program implemented over one academic year.	<i>Test of Auditory Comprehension of Language-3</i>	<i>Language for Learning</i> had statistically and educationally significant effects on receptive language skills. A 2 x 2 ANCOVA with effect sizes was provided. Effect sizes ranged from 0.13 to 0.35 across the <i>TAOL-3</i> scales.
Beveridge & Jerrams (1981)	<i>DISTAR Language</i>	40 (10 in <i>DISTAR Language</i> only, 10 in <i>DISTAR Language</i> and Parental Assistance Plan [PAP], 10 in PAP only, and 10 in control [no language program])	Age range three years, five months to four years, five months	Experimental — Pretest–posttest control-group design Four matched groups: <i>DISTAR Language</i> only, <i>DISTAR Language</i> plus PAP, PAP only, and no language instruction	Determine the differential effects of <i>DISTAR Language</i> and a PAP with nursery school children.	Provided 12 weeks of programs (i.e., PAP, <i>DISTAR Language</i>); also assessed 18 months later.	<i>Reynell Comprehension and Expressive Language Scales</i> and <i>English Picture Vocabulary Test</i>	Statistically significant differences were noted between <i>DISTAR Language</i> plus PAP and control and PAP and control. Improved performance with <i>DISTAR Language</i> found, but not statistically significant.
Darch, Gersten, & Taylor (1987)	<i>Reading Mastery</i> , <i>DISTAR Arithmetic</i> , and <i>DISTAR Language</i>	600+	All students were low-income African Americans	Quasi-experimental — Nonequivalent control group	Determine the effects of Direct Instruction programs on low-income African American students. Data collected over a seven-year period to determine stability of effects.	Provided Direct Instruction program that included <i>Reading Mastery</i> , <i>DISTAR Arithmetic</i> , and <i>DISTAR Language</i> implemented over three years for each group of participants over a seven-year period (i.e., 1973-80).	<i>Metropolitan Achievement Test</i> (1973-1976), <i>Comprehensive Test of Basic Skills</i> (1978-1980), <i>Coopersmith Self-Concept Inventory</i> , and <i>IARS</i>	Direct Instruction resulted in significantly higher performance on reading, math, and language measures than did the comparison group over a seven-year time period. Graduation rates were higher for the Direct Instruction group than the comparison group in the longitudinal analysis.
Gersten, Taylor, Woodward, & White (1997) ELL	<i>DISTAR Language</i> , <i>DISTAR Reading</i> , and <i>DISTAR Arithmetic</i>	900+	Students from an economically disadvantaged community. 60-80% were classified as limited English proficient when entering school.	Quasi-experimental	Determine the effects of Direct Instruction programs on low-income students whose first language is not English. Data collected over a 12-year period to determine consistency of program effects.	Students received Direct Instruction programs, including <i>DISTAR Language</i> for three full years. Prompts in Spanish were provided when necessary and expedient.	<i>Metropolitan Achievement Test</i> (1970-1983)	At the end of third grade each group of students achieved above or near the national norm on the Language subset of the <i>MAAT</i> . Strong, consistent effects were noted for sixth graders. In the longitudinal analysis, students in the DI programs were less likely to be retained or drop out of school.
Muthukrishna & Naidoo (1987) ELL	<i>DISTAR Language I</i>	11 (six in <i>DISTAR Language</i> group, five in semi-structured program comparison group)	Preschool disadvantaged children from India (aged four to five years).	Quasi-experimental — Nonequivalent control group	Investigate the effectiveness of <i>DISTAR Language I</i> with preschool disadvantaged children from India.	Implemented <i>DISTAR Language I</i> and semi-structured program every day for 30-35 minutes for approximately 12 months.	<i>Stanford-Binet Intelligence Scale</i> , <i>Reynell Developmental Scales Revised</i> , and <i>Peabody Picture Vocabulary Test</i>	Both groups had gains in expressive and receptive language, vocabulary, and intelligence. The <i>DISTAR Language I</i> group had greater gains in intelligence, language comprehension and expression, and in vocabulary age.
Sassenrath & Maddux (1974) ELL	<i>DISTAR Language</i>	98 (no indication of number of students in each of three groups)	Kindergarten students from economically and educationally disadvantaged neighborhoods from seven elementary schools in a small city/rural school district (55 monolingual [English] and 43 bilingual [English and Spanish])	Quasi-experimental — Nonequivalent control group (11 classrooms; no indication of number of classrooms and/or students exposed to each program)	Assess the effectiveness of the <i>DISTAR Language</i> , <i>Peabody Language Development</i> , and <i>Standard Method Language Development</i> programs for disadvantaged Kindergarten students.	Provided <i>DISTAR Language</i> program for 30 minutes per day, <i>Peabody Language Development Program</i> for 40 minutes a day, and the <i>Standard Method Language Development</i> program for implemented (no time specified) over one academic year.	<i>School Readiness Survey</i> , <i>Wepman Auditory Discrimination Test</i> , and <i>Illinois Test of Psycho-linguistic Abilities</i>	Children made gains on almost all measures. There were statistically significant differences favoring <i>DISTAR Language</i> and <i>Standard</i> programs in the areas of <i>Speaking Vocabulary</i> , errors in Auditory Differences, and errors in Auditory Similarities, and a statistically significant difference favoring the <i>Standard</i> program for Mutual Expression. However, overall results seemed to slightly favor the <i>DISTAR Language</i> and/or <i>Standard</i> programs over the <i>Peabody</i> program.
Wheldall & Wheldall (1984)	<i>DISTAR Language I</i>	16 (eight in <i>DISTAR Language I</i> , eight in Shiach's <i>Teach Them to Speak</i>)	Age three years, nine months and four years, nine months in Birmingham, England	Experimental — Pretest–posttest control group	Determine the relative effectiveness of the <i>DISTAR Language I</i> program and Shiach's <i>Teach Them To Speak</i> program on young socially disadvantaged children.	<i>DISTAR Language I</i> and Shiach's <i>Teach Them to Speak</i> provided for eight weeks.	<i>DISTAR Placement Test</i> , <i>The English Picture Vocabulary Test</i> , <i>Sentence Comprehension Test (SCT)</i> , <i>British Ability Scales</i> , and <i>Illinois Test of Psychological Abilities</i>	Lack of statistically significant differences were found between the two programs. Gains were observed from pretest to posttest for both programs on all measures (several of which reached statistical significance). No statistically significant differences were found between teacher or nurse implementation.

Benner et al. (2002) investigated the effects of the entire *Language for Learning* program implemented over one academic year on the receptive language skills of Kindergarten children who lived in a small rural Midwestern town. Forty-five children participated across two elementary schools. The *Language for Learning* school included 21 children (mean age 5.50 years) while the comparison school, which used language development activities designed by the teachers, included 24 children (mean age 5.61 years). Children were pretested and posttested with the *Test of Auditory Comprehension of Language-3 (TACL-3)*. Results showed that children who received *Language for Learning* instruction had statistically higher gains on the *TACL-3* than children in the comparison school (see Figure 26).

Beveridge and Jerrams (1981) compared the relative effects of a 12-week implementation of the *DISTAR Language* program only, the *DISTAR Language* program combined with the Parental Assistance Plan (PAP), the PAP only, and a control group that did not receive a language program. In all, 40 nursery school children ranging in age from three years, five months to four years, five months, from Manchester, England, were involved in the study. Ten children were assigned to each group; each child was matched with a child from each of the other groups. Thus, there were 10 matched quartets. All children were pretested and posttested immediately following the intervention as well as 18 months later on the *Reynell Comprehension and Expressive Language Scales* and the *EPVT*. Results showed that the *DISTAR Language* only, *DISTAR Language* plus PAP, and PAP-only groups scored higher than children in the control group (see Figure 27). However, only the children in the *DISTAR Language* plus PAP and PAP-only groups had statistically significant gains as compared to the control group.

Darch, Gersten, and Taylor (1987) investigated the combined effects of *Reading Mastery*, *DISTAR Arithmetic*, and *DISTAR Language* implemented over three years with over 600 African American students from low-income homes beginning with students who entered Grade 1 in 1969 or 1970. Three elementary schools participated — one located in a small town and two located in agricultural areas in South Carolina. *The Metropolitan Achievement Test (MAT)* (1973–1976), *Comprehensive Test of Basic Skills (CTBS)* (1978–1980), *Coopersmith Self-Concept Inventory*, and *IARS*, were administered as pretests and posttests for students in the experimental and comparison groups. Students received Direct Instruction language programs over a three-year period. The stability of the effects was assessed over a seven-year time period (1973–80). Results showed twice as many students in the local comparison group were more than one year below grade level (i.e., at risk for academic failure). There were large differences between the Direct Instruction language students and the comparison students on almost every subtest of the *MAT* (the one exception was Math Concepts). Consistent differences were found on the affective

Figure 26

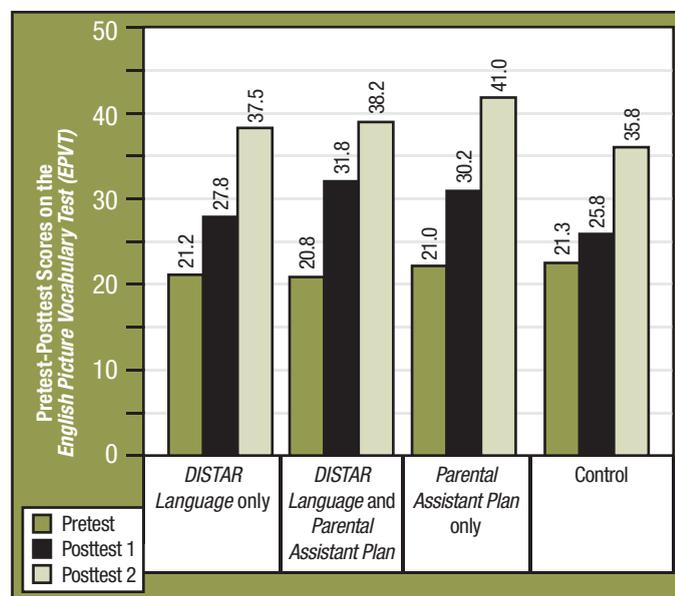


Note: The Total *TACL-3* standard score is based on a mean of 100 and a standard deviation of 15.

The Vocabulary, Grammatical Morphemes, and Elaborated Sentences/Phrases subtests are based on a mean of 10 and a standard deviation of 3.

Benner et al. (2002) study showing mean standard score gains on the *Test of Auditory Comprehension of Language-3*.

Figure 27



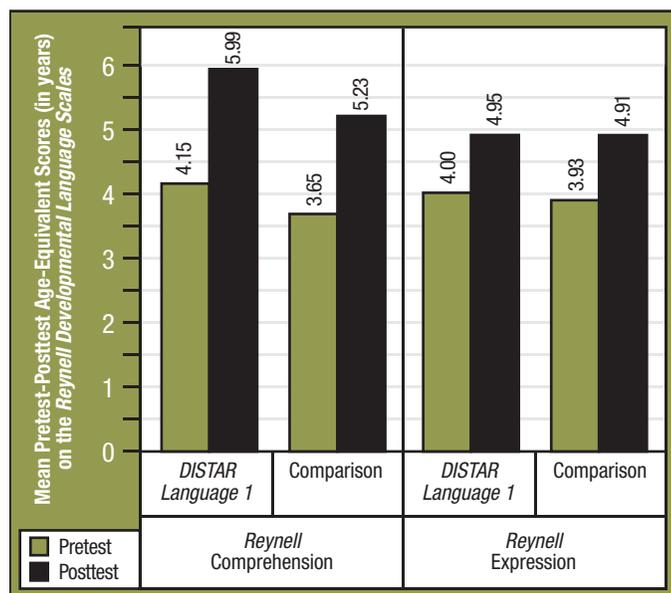
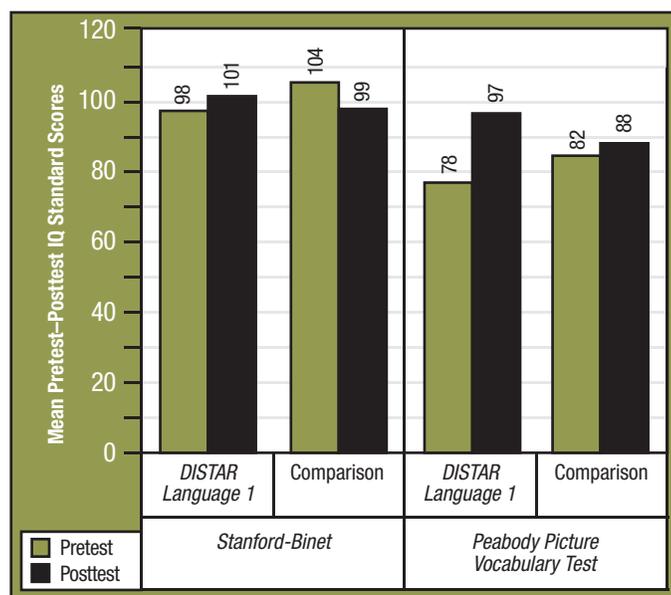
Beveridge and Jerrams (1981) study illustrating pretest and posttest scores on the *English Picture Vocabulary Test*.

measures favoring the Direct Instruction language students. Also, the Direct Instruction language students had a much greater percentile rank on the *MAT* Total Reading, Math, and Language (1973–1976) and *CTBS* Total Reading, Math, and Language (1978–80) subtests than did the comparison group over the seven-year period (e.g., for Language, the range for those receiving Direct Instruction was the 28th to 34th percentile on the *MAT* and 31st to 38th on the *CTBS*, versus the 8th and 15th percentile for the comparison group). Finally, a higher percentage of students (85.9% to 93.1%) who received Direct Instruction graduated from high school than did the comparison students (81.7% to 83.1%).

Gersten, Taylor, Woodward, and White (1997) summarized the results of several structured immersion evaluation studies conducted in Uvalde, Texas as part of Project Follow-Through. Structured immersion was defined as teaching new content in English using vocabulary understood by students — difficult words were pretaught to students, sometimes in their native language. Thus, prompts in Spanish were provided when necessary. Students were from low-income households (85% eligible for free lunch) and Hispanic, with 60–80% classified as limited English proficient (LEP). *DISTAR Language, Reading, and Arithmetic* programs were used. At the end of Grade 3, the Uvalde students achieved above or near the national norm on the Language subtest of the *Metropolitan Achievement Test (MAT)*. These students were followed up in Grades 5 and 6, with educationally significant (above 0.25 noted by Adams and Engelmann, 1996) findings noted for the *MAT* Language subtest for students in Grade 6. Finally, a preliminary analysis of the effects of those receiving *DISTAR* programs in Follow-Through through the high school years was conducted. Results revealed that these students were more likely to receive a high school diploma, less likely to be retained in any grade, and had better attendance. Further, these students were more likely to graduate from high school. These findings suggest that the structured immersion approach using *DISTAR* programs increased the academic achievement of the language minority students in Uvalde. These findings show that language achievement was at or near grade level for more than one decade.

Muthukrishna and Naidoo (1987) investigated the effects of the *DISTAR Language I* program with disadvantaged Indian preschoolers (age range four to five years) in South Africa. Six students were taught with the *DISTAR Language I* program and five children received instruction using a teacher-developed semi-structured program every day for 30 to 35 minutes for about 12 months. The authors reported that both groups had gains in intelligence, expressive and receptive language, and vocabulary as measured by the *Stanford-Binet Intelligence Scale*, *PPVT*, and *Reynell Developmental Scales-Revised* (see Figure 28). The *DISTAR Language I* group had greater gains than did the semi-structured (comparison) group on all measures.

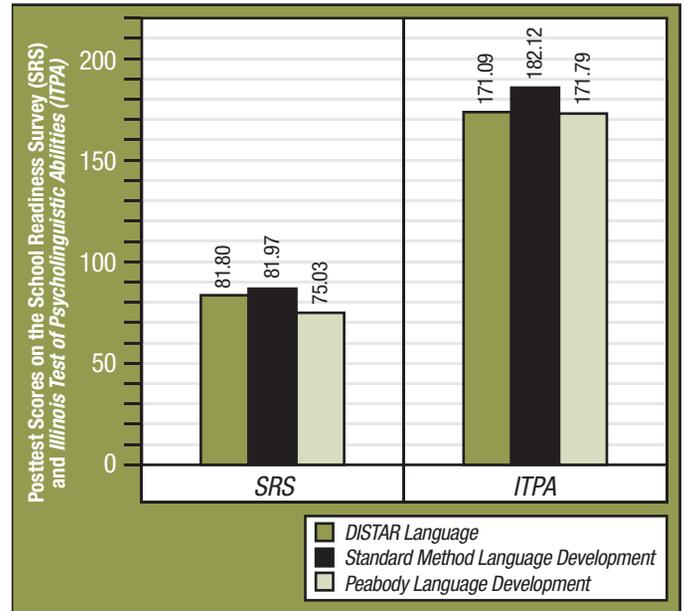
Figure 28



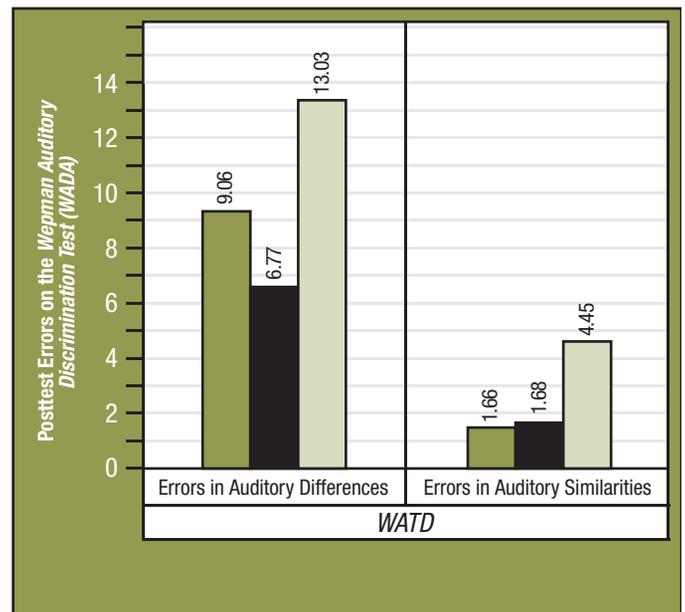
Muthukrishna and Naidoo (1987) study showing mean pretest and posttest standard IQ scores and age equivalent scores (years).

Sassenrath and Maddux (1974) implemented *DISTAR Language*, the *Peabody Language Development Program*, and the *Standard Method Language Development* over one academic year. Ninety-eight Kindergarteners from economically and educationally disadvantaged neighborhoods across seven elementary schools (11 classrooms) in a small city/rural school district participated. (Note: There was no information on the number of students/classrooms exposed to each program.) Fifty-five of the students were monolingual (English), while 43 were bilingual (English and Spanish). All students were given the *School Readiness Survey*, *Wepman Auditory Discrimination Test*, and *Illinois Test of Psycholinguistic Abilities* as pretests and posttests. Students in all groups made gains on nearly all measures. There were statistically significant differences favoring the *DISTAR Language* and *Standard Method* programs in the areas of Speaking Vocabulary, errors in Auditory Differences, and errors in Auditory Similarities (see Figure 29). Statistically significant differences were found in favor of the *Standard Method* program for Manual Expression.

Figure 29



Students in all groups made gains on nearly all measures. There were statistically significant differences favoring the *DISTAR Language* and *Standard Method* programs in the areas of Speaking Vocabulary, errors in Auditory Differences, and errors in Auditory Similarities.

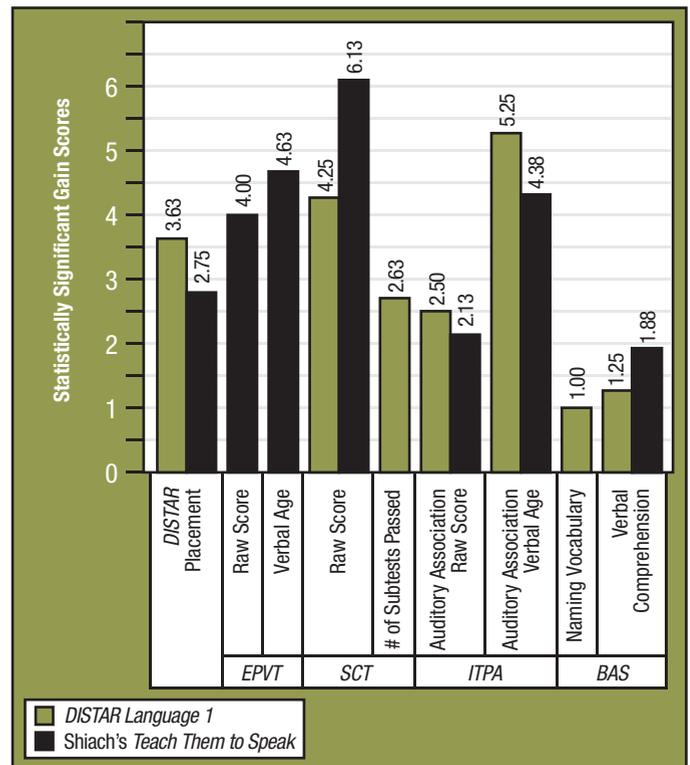


Sassenrath and Maddux (1974) study displaying posttest scores on the *School Readiness Survey* and *Illinois Test of Psycholinguistic Abilities*, and posttest errors on the *Wepman Auditory Discrimination Test*.

Wheldall and Wheldall (1984) implemented *DISTAR Language I* and Shiach's *Teach Them to Speak* program for eight weeks with 16 children (age three years, nine months to four years, nine months). Children were randomly assigned to one of the programs (eight per program). From there, all children were randomly assigned to be taught by the teacher or nurse (thus, four children participated in each of the subgroups). Another group of 12 children who had 12 or more errors on the *DISTAR Placement Test*, and whose raw scores on the *EPVT* were so low that a vocabulary age could not be calculated, were provided the *DISTAR Language I* program by either a teacher (N = 6) or nurse (N = 6). The *DISTAR Placement Test*, *EPVT*, *Sentence Comprehension Test*, *British Ability Scales*, and *Illinois Test of Psychological Abilities (ITPA)* were administered to all children as pretests and posttests. Results showed no statistically significant differences between the programs with the exception of "marginally significant" results on the *EPVT* Raw Score and *ITPA* Auditory Reception subtest favoring Shiach's *Teach Them To Speak* program. However, the authors argued that these results were likely due to chance factors, rather than differential effects of the programs. Statistically significant increases were observed from pretests to posttests for both programs on several of the measures (see Figure 30). Finally, there were no statistically significant differences between groups taught by the teacher and those taught by the nurse.

Overall, the results of these studies suggest that Direct Instruction language programs are as effective or more effective than other language programs.

Figure 30



Note: *EPVT* = English Picture Vocabulary Test; *SCT* = Sentence Comprehension Test; *ITPA* = Illinois Test of Psycholinguistic Abilities; *BAS* = British Ability Scales

Wheldall and Wheldall (1984) study showing statistically significant gain scores.



Children with Disabilities

Eight studies were found examining the effectiveness of the Direct Instruction language programs with children with disabilities. Table 2 shows these investigations.

Table 2 — Characteristics of studies investigating Direct Instruction language programs with children with disabilities

Study	DI Program	n	Participants	Research Design	Research Purpose	Intervention Details	Outcome Measures	Findings
Booth, Hewitt, Jenkins, & Maggs (1979)	<i>DISTAR Language I, II, III and DISTAR Reading</i>	12	Age range 8 to 14 years at beginning of study Age range 12.7 to 17.8 years at end of study IQ range 35 to 55	Pre-experimental — one-shot case study Longitudinal study over a five-year period	Determine the outcomes of the <i>DISTAR Language</i> program with children with mental retardation.	Provided <i>DISTAR Language I, II, and III</i> and <i>DISTAR Reading</i> over a period of four to five years.	<i>Peabody Picture Vocabulary Test, Mastery in language and reading, Baldie Language Ability Test, Neale Analysis of Reading Ability, and Schonell Word Recognition Test</i>	Children mastered most language objectives on the <i>Baldie Language Ability Test</i> . Participants had an average gain of 34 (range = 15 to 49) language age months in 32 months of daily instruction. Most children read at or above Grade 3 language and reading levels. <i>DISTAR Language</i> children outperformed "normal" children on 31 of 66 objectives on the <i>Baldie Language Ability Test</i> .
Cole & Dale (1986)	<i>DISTAR Language I</i>	44 (19 in <i>DISTAR Language I, 25 in Interactive Language Instruction</i>)	Preschool children with language delays ranging in age from two years, 10 months to five years, nine months (mean age four years, six months) IQ range 52 to 109	Experimental — Pretest-posttest control group (two classes used <i>DISTAR Reading</i> ; three classes used <i>Interactive-Language Instruction</i>)	Determine the relative effects of the <i>DISTAR Language I</i> and <i>Interactive Language Instruction</i> programs with preschool and Kindergarten children with language delays.	<i>DISTAR Language I</i> and <i>Interactive Language Instruction</i> implemented two hours a day, five days per week for 32 weeks. Student-to-teacher ratio was four to one.	<i>Columbia Mental Maturity Scale, Carrow Auditory-Visual Abilities Test, Peabody Basic Language samples (Mean Length of Utterance, developmental sentence scoring, Preschool Language Scale (Auditory Comprehension, and Verbal Abilities subscales and Overall score), Basic Language Concepts Test, Northwest Syntax Screening Test (Receptive subtest), Northwestern Syntax Screening Test (Expressive subtest), and Peabody Picture Vocabulary Test Revised</i>	Statistically significant differences were noted between pretest and posttest for both groups on every measure except developmental sentence scoring. No statistically significant difference between the effectiveness of the programs was found.
Cole, Dale, & Mills (1991)	<i>DISTAR Language, DISTAR Arithmetic, and DISTAR Reading</i>	107 (56 in Direct Instruction programs, 52 in <i>Mediated Learning</i> program)	Children (ages 3 to 7 years) with mild to moderate developmental delays	Experimental — Pretest-posttest control-group design (four Direct Instruction classes [3 preschool, 1 Kindergarten; mean age 5.0 years] and 4 <i>Mediated Learning</i> classes [3 preschool, 1 Kindergarten; mean age 4.9 years] per year)	Determine the relative effectiveness of Direct Instruction programs versus <i>Mediated Learning</i> with preschool and Kindergarten children with mild to moderate developmental delays.	Implemented <i>DISTAR Language, DISTAR Arithmetic, and DISTAR Reading, and Mediated Learning</i> 2 hours a day, 5 days per week for 180 school days (preschool) and 5.5 hours a day, 5 days per week over 180 school days (Kindergarten). Program provided over a 4-year period.	<i>Peabody Picture Vocabulary Test-Revised, Test of Early Language Development, Preschool Language Assessment Inventory, Mean Length of Utterance, Basic Language Concepts Test, and McCarthy Scales of Children's Abilities</i>	Both groups had gains on several measures. No statistically significant differences were found between the two programs except for the <i>PPVT-R Standard</i> score favoring the ML group. Higher performing children on <i>MSCA</i> General Cognitive Index and <i>PLAI</i> pretest measures benefited more from Direct Instruction, whereas lower performing children benefited more from <i>Mediated Learning</i> .
Cole, Dale, Mills, & Jenkins (1993)	<i>DISTAR Language, DISTAR Arithmetic, and DISTAR Reading</i>	164 (81 in Direct Instruction programs, 83 in ML program)	Children with developmental delays in language (3 to 7 years old, mean age 4.75 years) Mean IQ 76.03	Experimental — Pretest-posttest control group design (four Direct Instruction classes [3 preschool, 1 Kindergarten; mean age 4.76 years; mean IQ 77.53] and 4 <i>Mediated Learning</i> classes [3 preschool, 1 Kindergarten; mean age 4.74; mean IQ 74.57] per year)	Determine the relative effectiveness of Direct Instruction programs versus <i>Mediated Learning</i> with preschool and Kindergarten children with mild to moderate developmental delays.	Implemented <i>DISTAR Language, DISTAR Arithmetic, and DISTAR Reading (DI), and Mediated Learning (ML)</i> 2 hours a day, 5 days per week for 180 school days (preschool) and 5.5 hours a day, 5 days per week over 180 school days (Kindergarten). Program provided over a 4-year period.	<i>Peabody Picture Vocabulary Test Revised, Test of Early Reading Ability, McCarthy Scales of Children's Abilities, Preschool Language Assessment Inventory, Mean Length of Utterance, and Basic Language Concepts Test</i>	No statistically significant differences were found between the two programs on any measures. Higher performing children gained significantly more in the Direct Instruction program, although these gains were modest.

Table 2 — Characteristics of studies investigating Direct Instruction language programs with children with disabilities (continued)

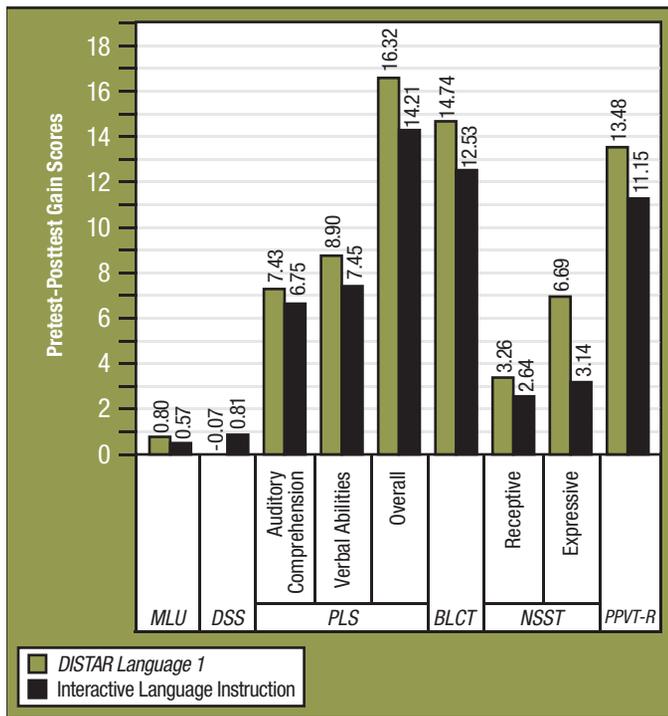
Study	DI Program	n	Participants	Research Design	Research Purpose	Intervention Details	Outcome Measures	Findings
Dale & Cole (1988)	<i>DISTAR Language</i> , <i>DISTAR Arithmetic</i> , and <i>DISTAR Reading</i>	83	Preschool (N = 61, ages three years to five years, 11 months) and Kindergarten/primary (N = 22, ages six to eight) developmentally delayed children	Experimental pretest/posttest control group design (four Direct Instruction classes [three preschool, one Kindergarten] and four <i>Mediated Learning</i> classes [three preschool, one Kindergarten])	Determine the relative effectiveness of Direct Instruction programs versus <i>Mediated Learning</i> with preschool and Kindergarten children with developmental delays.	Implemented <i>DISTAR Language</i> , <i>DISTAR Arithmetic</i> , and <i>DISTAR Reading</i> (DI), and <i>Mediated Learning</i> (ML) two hours a day, five days per week for 180 school days (preschool) and 5.5 hours a day, five days per week over 180 school days (Kindergarten). Implemented over one academic year.	<i>McCarthy Scales of Children's Abilities</i> , <i>Peabody Picture Vocabulary Test Revised</i> , <i>Test of Early Language Development</i> , <i>Mean Length of Utterance</i> , <i>Basic Language Concepts Test</i> , <i>Test of Early Reading Ability</i> , <i>Test of Early Mathematics Ability</i> , and <i>Stanford Early School Achievement Test</i>	The Direct Instruction group scored significantly higher on the standardized <i>Tests of Early Language Development</i> and the <i>Basic Language Concepts Test</i> while the ML group scored significantly higher on the <i>McCarthy Verbal and Memory Scales</i> and <i>Mean Length of Utterance</i> . Higher performing children did better on the posttest in <i>Mediated Learning</i> , while lower performing children did better on the posttest in Direct Instruction programs on 18 of the 24 analyses, although the authors reported these results did not reach statistical significance.
Gersten & Maggs (1982)	<i>DISTAR Language I, II, and III</i> and <i>DISTAR Reading I, II, and III</i>	12	Children with moderate/severe mental retardation; ages at the beginning of the study ranged from six years, 10 months to 12 years, six months, mean 10.34 years	Pre-experimental — One-group pretest – posttest	Determine the long-term effects of <i>DISTAR Language</i> and <i>DISTAR Reading</i> with children with mental retardation.	<i>DISTAR Language I, II, and III</i> and <i>DISTAR Reading I, II, and III</i> given over five years. Language instruction was provided 30 minutes a day (average) for 195 school days per year.	Pretest only: <i>Peabody Picture Vocabulary Test</i> , <i>Baldie Language Ability Test</i> , and <i>Neale Analysis of Reading</i> Pretest/posttest: <i>Stanford-Binet Intelligence Test</i>	Statistically significant improvement was noted on <i>Stanford-Binet Intelligence Test</i> . Good performance levels found at end of program on other measures.
Giang, Singer, Cooley, & Tish (1992)	<i>DISTAR Language I</i> and <i>Reading Mastery I</i>	1	Six year-old child with traumatic brain injury (12 months post-injury) IQ = 65	Single case— A-B design	Determine the effects of <i>DISTAR Language I</i> and <i>Reading Mastery I</i> on a child with a traumatic brain injury.	Implemented <i>DISTAR Language I</i> , <i>Reading Mastery I</i> over 12 instructional sessions.	Percentage of words correctly repeated in complete sentence and number of letter sounds read correctly	Percentage of words correctly repeated increased from an average of 47.9% during baseline to 72.8% during the instruction. The number of sounds read correctly increased from zero sounds during baseline to an average of 6.2 during instruction.
Maggs & Morath (1976)	<i>DISTAR Language I</i>	28 (14 in <i>DISTAR Language</i> , 14 in <i>Peabody Language</i> program)	Institutionalized (for five years) children with moderate or severe retardation from Stockton and Marsden Hospital schools in the state of New South Wales (age range eight to 16 years at posttest).	Experimental — Pretest – posttest control group (<i>DISTAR Language I</i> group, <i>Peabody Language kit</i> group)	Determine the relative effectiveness of <i>DISTAR Language I</i> versus <i>Peabody Language kit</i> (P-level) with institutionalized children with moderate to severe retardation.	<i>DISTAR Language I</i> implemented one hour per school day over a two year period (experimental group) and <i>Peabody Language</i> program (P-level) or programs utilizing some components of the <i>Peabody Language kit</i> with variations (control group).	<i>Basic Concept Inventory</i> , <i>Reynell Verbal Comprehension</i> , <i>Stanford-Binet Intelligence Scale</i> , <i>Piaget's Class Inclusion</i> , <i>Piaget's Seriation</i> , and <i>Bruner's Matrix</i>	Significantly greater gains were found for children instructed with <i>DISTAR Language I</i> than children instructed with the <i>Peabody Language</i> program on all six measures.

Booth, Hewitt, Jenkins, and Maggs (1979) investigated the long-term effects of a five-year program in *DISTAR Language I–III* and *DISTAR Reading I–III*. Twelve students with mental retardation, ranging in age from 8 to 14 years (IQ range 35 to 55) received instruction in *DISTAR Language* and *Reading* over a five-year period. The *PPVT* was administered at the end of each school year. *DISTAR* mastery tests in language and reading, the *Baldie Language Ability Test*, the *Neale Analysis of Reading Ability*, and the *Schonell Word Recognition Test* were also administered at various times throughout the study. Before the study, students progressed at an average rate of two months for every five months of instruction. After the *DISTAR* programs were implemented, the authors reported that the students gained an average of 34 language age months in the actual 32 months of instruction. Many of the students were performing at approximately Grades 3–4 levels in language and reading at the conclusion of the study. The *DISTAR Language* students outperformed typical children in 31 of the 66 objectives on the *Baldie Language Ability Test*.

Cole and Dale (1986) compared the effects of *DISTAR Language I* with *Interactive Language Instruction* implemented two hours per day, five days per week for 32 weeks with 44 preschoolers with language delays (i.e., 1.5 standard deviations below the mean for their chronological age). These children ranged in age from 34 to 69 months and attended the Experimental Education Unit at the University of Washington. All children were randomly assigned to one of five classrooms. Two classrooms used the *DISTAR Language I* program (N = 19) and three classrooms used the *Interactive Language Instruction* program. Children were pretested and posttested with a variety of language assessments including measures of mean length of utterance (MLU), developmental sentence scoring (DSS), *Preschool Language Scale* (Auditory Comprehension subtest), *Preschool Language Scale* (Verbal Abilities subscale), *Preschool Language Scale* (Overall), *Basic Language Concepts* (BLCT), *Northwest Syntax Screening Test* (Receptive subtest), *Northwestern Syntax Screening Test* (Expressive subtest), and *PPVT-R*.

Results indicated statistically significant differences between pretest and posttest performance for both groups (see Figure 31). The *DISTAR Language I* program outperformed the *Interactive Language Instruction* program on eight of the nine measures. However, both programs were effective and showed no statistically significant differences between them.

Figure 31



Note: MLU = Mean Length of Utterance; DSS = Developmental Sentence Score; PLS = Preschool Language Scale; BLCT = Basic Language Concepts Test; NSST = Northwestern Syntax Screening Test; PPVT-R = Peabody Picture Vocabulary Test-Revised

Cole and Dale (1986) study displaying pretest–posttest gain scores.

Cole, Dale, and Mills (1991) compared the effects of Direct Instruction (*DISTAR Language*, *DISTAR Arithmetic*, and *DISTAR Reading*) to Mediated Learning. Programs were implemented two hours a day, five days per week over 180 days (preschool) and 5.5 hours a day, five days per week over 180 days (Kindergarten). The study was conducted over a four-year period with 107 preschool or Kindergarten children with developmental delays in language. Children were randomly assigned to either a classroom implementing the Direct Instruction programs (mean IQ was 76.3) or to a classroom implementing the Mediated Learning program (mean IQ was 75.5). All children were instructed at Northwest University laboratory school (three preschool classrooms and one Kindergarten classroom per year per program). The *PPVT-R*, *Test of Early Language Development (TELD)*, *Preschool Language Assessment Inventory (PLAI)*, *MLU*, *BLCT*, and *McCarthy Scales of Children’s Abilities (MSCA)* were administered as pretests and posttests. Results showed statistically significant increases from pretest to posttest

assessments for both programs on the following measures: *MSCA* General Cognitive Index, *PPVT-R* Standard Score, *PPVT-R* Raw Score, *TELD* Quotient Score, *TELD* Raw Score, *PLAI*, and *BLCT*. No statistically significant differences between the Direct Instruction and Mediated Learning were found on language, cognitive, or other measures except for the *PPVT-R* Standard Score favoring the Mediated Learning group. However, children who scored higher initially on the *MSCA* General Cognitive Index and *PLAI* gained more from the Direct Instruction programs in language development, while lower performing children gained more language skills from Mediated Learning.

Cole, Dale, Mills, and Jenkins (1993) compared the effects of Direct Instruction (*DISTAR Language*, *Arithmetic*, and *Reading*) to Mediated Learning. The programs were implemented two hours a day, five days per week over 180 days (preschool) and 5.5 hours a day, five days per week over 180 days (Kindergarten). The study was conducted over a four-year period with 164 preschool or Kindergarten children (three to seven years of age, mean age 4.75 years) with developmental delays in language (mean IQ was 76.03). Children were randomly assigned to either a classroom using Direct Instruction programs or a classroom using Mediated Learning. All children were instructed at a laboratory school (three preschool classrooms and one Kindergarten classroom per year per program). The *PPVT-R*, *TELD*, *MSCA*, *PLAI*, *MLU*, and *BLCT* were administered as pretests and posttests. Results showed no statistically significant differences on language, cognitive, or other measures between the groups. However, higher performing children gained more from Direct Instruction, while lower performing children gained more from Mediated Learning.

Dale and Cole (1988) compared the effects of Direct Instruction (*DISTAR Language*, *Arithmetic*, and *Reading*) to Mediated Learning. The programs were implemented two hours a day, five days per week over 180 school days (preschool) and 5.5 hours a day, five days per week over 180 school days (Kindergarten). Eighty-three children (61 preschool, 22 Kindergarten) with developmental delays in language participated. Preschoolers ranged in age from three years to five years, eleven months; Kindergarten children ranged in age from six to eight years. Children were randomly assigned to either a classroom implementing Direct Instruction or to a classroom implementing Mediated Learning. All children were instructed at the Experimental Education Unit, Child Development and Mental Retardation Center at the University of Washington (three preschool classrooms and one Kindergarten classroom per year per program). The *MSCA*, *PPVT-R*, *TELD*, *MLU*, *BLCT*, *Test of Early Reading Ability*, *Test of Early Math Ability*, and *Stanford Early School Achievement Test* were administered as pretests and posttests. Results showed the Direct Instruction group scored significantly higher on the *TELD* and the *BLCT* while the Mediated Learning group scored significantly higher on the

McCarthy Verbal and Memory Scales and MLU. Higher performing children did better on the posttest in Mediated Learning, while lower performing children did better on the posttest in Direct Instruction on 18 of the 24 analyses.

Gersten and Maggs (1982) investigated the long-term effects of an intensive five-year program in *DISTAR Language I-III* and *DISTAR Reading I-III* in Sydney, Australia. Twelve children with mental retardation ranging in age from six years, ten months to twelve years, six months received instruction in the three levels of *DISTAR Language* and *Reading* an average of 30 minutes per day over approximately 195 instructional days during a five-year period. The *Stanford-Binet Intelligence Test* (pretest and posttest) and *PPVT*, *Baldie Language Ability Test*, and *Neale Analysis of Reading Ability* (posttest only) were administered. Results indicated statistically significant gains on the *Stanford-Binet Intelligence Test* from 41.9 (44.8 when adjusted for regression) to 50.6 (1.08 standard deviation gain from pretest to posttest; 0.36 standard deviation gain when compared to normative group). There were significant differences between the children with mental retardation in this study and children without disabilities from the normative sample in Sydney on nine of the 66 objectives on the *Baldie Language Ability Test* (five favoring children with mental retardation, four favoring children without disabilities).

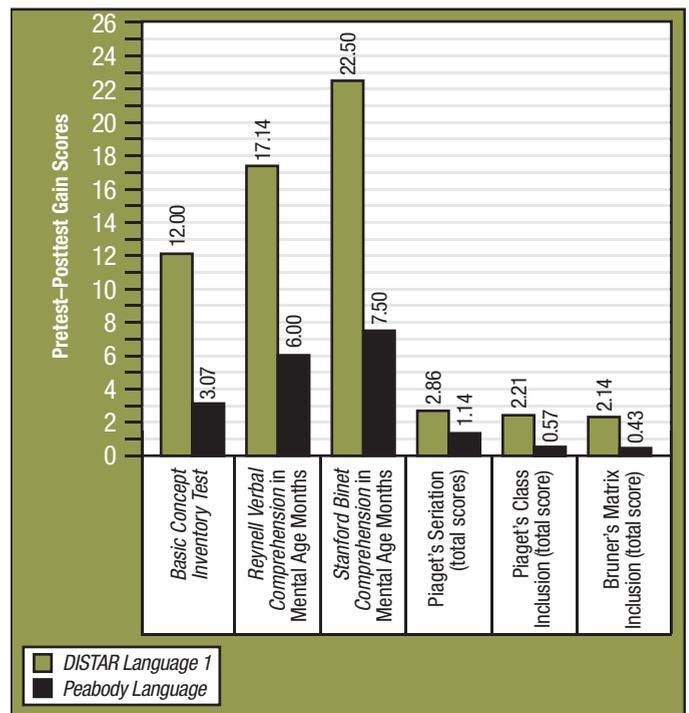
Glang, Singer, Cooley, and Tish (1992) provided *DISTAR Language I* and *DISTAR Reading I* to a six-year-old girl with a traumatic brain injury (12 months post-injury) two to three times per week for a total of 12 instructional sessions. The girl's full-scale IQ score was 65. She was at the second percentile on the Vocabulary and Similarities subtest and at the first percentile on the Comprehension subtest of the *Weschler Preschool and Primary Scale of Intelligence*. Data were gathered on the percentage of words correctly repeated in complete sentences and the number of sounds read correctly. The girl's percentage of words correctly repeated increased from an average of 47.9% during baseline to 72.8% during instruction. She also had an increase in the number of sounds read correctly from zero sounds during baseline to an average of 6.2 during instruction.

Maggs and Morath (1976) assessed the differential effects of the *DISTAR Language I* program and *Peabody Language* program with 28 children (ages ranging from eight to 16 years) with moderate to severe retardation who were institutionalized for a period of five years in Stockton and Marsden Hospital schools in South Wales. Fourteen children were randomly selected from the two institutions and received *DISTAR Language I* for one hour per school day over a two-year period. Fourteen other children were randomly selected from the same institutions and received instruction from the standard curriculum (i.e., *Peabody Language* [P-level] or some components of the *Peabody Language* program with variations). All participants were pretested and posttested with the *Basic Concept Inventory*, *Reynell Verbal Comprehension*

Test, *Stanford-Binet Intelligence Test*, *Piaget's Class Inclusion*, *Piaget's Seriation*, and *Bruner's Matrix*. Significantly greater gains were observed for students instructed with *DISTAR Language I* than students instructed with the *Peabody Language* program on all six dependent measures (see Figure 32).

Overall, the results of these studies suggest that Direct Instruction language programs are as effective or more effective than other language programs.

Figure 32



Maggs and Morath (1976) study illustrating pretest–posttest gain scores.

Children with and without Disabilities

Two studies were found examining the effectiveness of Direct Instruction language programs in children with and without disabilities. Table 3 describes these investigations.

Table 3 - Characteristics of studies investigating Direct Instruction language programs with children with and without disabilities

Study	DI Program	n	Participants	Research Design	Research Purpose	Intervention Details	Outcome Measures	Findings
Martella & Waldron-Soler (2005)	<i>Language for Writing</i>	126	General education children in Grades 2–3, special education students in Grades 3–5 (at least 60% African American and/or Hispanic) 105 general education 21 special education	Pre-experimental — one group pretest–posttest	Determine the effects of the <i>Language for Writing</i> program on Grades 2–3 general education students and Grades 3–5 special education students.	<i>Language for Writing</i> program implemented for five months (Classrooms 1–5) and 14 months (Classroom 6) (Evaluation I) and one academic year (Classrooms 7–10) (Evaluation II).	<i>Test of Written Language-III</i> , student errors, lesson duration, lesson ratings, mastery test performance, social validity survey, and curriculum-based measures	General and special education students made statistically and educationally significant improvements in their writing performance.
Waldron-Soler, Martella, Marchand-Martella, Warner, Miller, & Tso (2002)	<i>Language for Learning</i>	36 (16 in <i>Language for Learning</i> , 20 in standard early childhood programs)	Preschool children (three to five years of age) 28 typical children, eight with developmental delays: Preschool A (12 children without developmental delay, four children with developmental delay), Preschool B (16 children without developmental delays), and Preschool C (four children with developmental delays)	Quasi-experimental — Nonequivalent control group (Preschool A, <i>Language for Learning</i> group; Preschool B, standard early childhood programs; and Preschool C, standard early childhood programs)	Investigate the differential effects of the <i>Language for Learning</i> program and standard early childhood education programs with preschoolers with and without developmental delays.	<i>Language for Learning</i> implemented for 15 weeks.	<i>Peabody Picture Vocabulary Test-III</i> , <i>Expressive Vocabulary Test</i> , and <i>Social Skills Rating System: Preschool Teacher Questionnaire</i>	Children with disabilities instructed with <i>Language for Learning</i> made greater gains than the comparison group on all three measures. Children without disabilities made greater gains on all three measures; however, there was a statistically significant increase on the <i>PPVT-III</i> and <i>SSRS</i> compared to the comparison group.

Martella and Waldron-Soler (in press) conducted an 18-month program evaluation of the *Language for Writing* program with 126 students in Grades 2–5 (105 general education students in Grades 2–3 and 21 special education resource room students in Grades 3–5) (at least 60% African American and/or Hispanic). Ten classrooms participated from the following locations: two in the Pacific Northwest, one in the West, four in the Southwest, two in the Midwest, and one in the South. Classrooms one through five received five months of the program (Evaluation I), Classroom six received 14 months of the program (Evaluation I), Classrooms seven through ten received nine months of the program (Evaluation II). All students were pretested and posttested using the *TOWL-3*. Data was also gathered on errors, lesson duration, lesson ratings, mastery test performance, and social validity. Statistically significant gains from pretest to posttest were found for all classrooms involved in the evaluation on the *TOWL-3*. Effect sizes ranged from 0.45 (Contrived Writing) to 1.29 (Spontaneous Writing) for general education students in Evaluation I and 0.43 (Contrived Writing) to 1.67 (Spontaneous Writing) for Evaluation II. Students in special education had average effect size gains of 0.28 (Contrived Writing) to 1.15 (Spontaneous Writing) (Evaluation I) and 0.41 (Contrived Writing) to 1.36 (Spontaneous Writing)

(Evaluation II). Students in special education settings closed the gap between their performance and that of the normative sample. The authors noted that English-Language learners made educationally significant improvements in all three measures of writing.

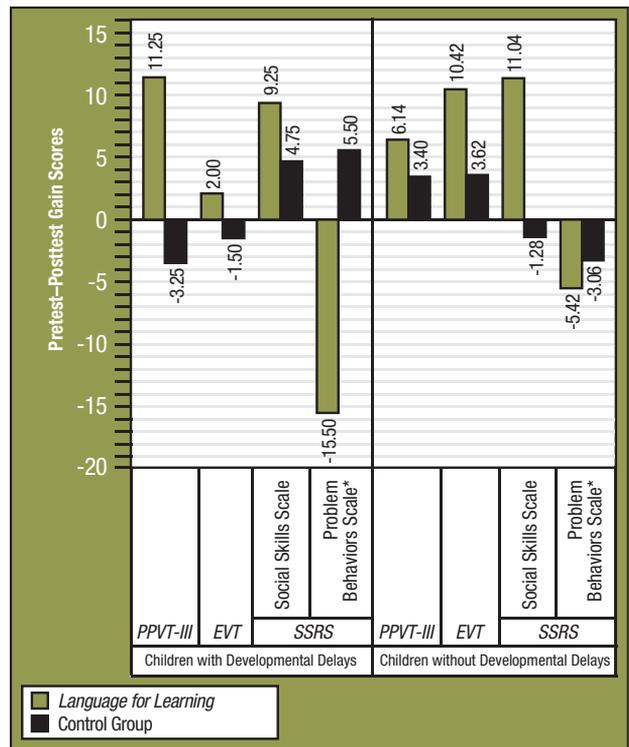


Waldron-Soler et al. (2002) investigated the effects of a 15-week implementation of the *Language for Learning* program on the language and social interaction skills of children in an integrated preschool located in the Pacific Northwest. A total of 36 students were involved (28 children without developmental delays and eight children with developmental delays). Three preexisting groups were pretested and posttested on the following measures: *Peabody Picture Vocabulary Test Third Edition (PPVT-III)*, *Expressive Vocabulary Test*, and *Social Skills Rating System (SSRS): Preschool Teacher Questionnaire*. Preschool A (N = 16, 12 children without developmental delays, four with developmental delays) received the *Language for Learning* program. Preschool B (N = 16, all without developmental delays) and Preschool C (N = 4, all with developmental delays) received standard early childhood education programs.

Results showed that children with developmental delays who were instructed with *Language for Learning* had greater improvement in receptive and expressive language skills and social interaction skills than children in the comparison group (see Figure 33). Children instructed with *Language for Learning* had reduced problem behaviors as measured by the *SSRS* compared to those in the comparison group. Additionally, children without developmental delays who received instruction in *Language for Learning* outperformed the comparison group on all measures; however, the statistical significance levels were reached for only receptive language (as measured on the *PPVT-III*) and social interaction skills (as measured by the *SSRS*).

Overall, the results of these studies suggest that Direct Instruction language programs are effective.

Figure 33



Note: PPVT-III = Peabody Picture Vocabulary Test-3rd Edition; EVT = Expressive Vocabulary Test; SSRS = Social Skills Rating System.

*Lower scores refer to less problem behavior.

Waldron-Soler et al. (2002) study illustrating pretest/posttest gain scores.

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(Note: * indicates the studies included in the research review)

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