

ADI NEWS

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THE ASSOCIATION FOR DIRECT INSTRUCTION

WINTER, 1991

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Annual ADI Awards for Excellence in Education

At the sixteenth Annual Eugene Direct Instruction Conference three excellence in education awards were made by the Board of Directors. These awards went to Chip Kiger for Teacher of the Year, Judith Hurle for Administrator of the Year, and to Edward Kameenui for Researcher of the Year.

ADI Teacher of the Year—Chip Kiger

This year the Association for Direct Instruction announced Chip Kiger as the ADI recipient for the Teacher of the Year. Chip is a resource room teacher at Washington Elementary School in the Eugene, Oregon, 4J School District. He has been a special education teacher for a number of years using Direct Instruction teaching techniques and many published programs. He is extremely hard-working and it shows in the achievement of his students.



Chip Kiger

Chip has been host to a number of research projects in his classroom, including field testing of several early versions of programs such as *Expressive Writing* and *Corrective Reading*. Input and feedback from teachers on DI programs are invaluable to program authors as well as teachers and students that will be using the program for years to come.

Chip Kiger's classroom has been considered a model implementation site for a number of years and practicum students are frequently placed in Chip's room because of his exemplary teaching practices. University practicum students receive an exceptional model of high expectations for academic success, effective behavior management skills, positive interactions with students, and great organizational skills. Chip has a reputation for being one of the best special education teachers in the Eugene/Springfield area.

ADI Administrator of the Year—Judith Hurle

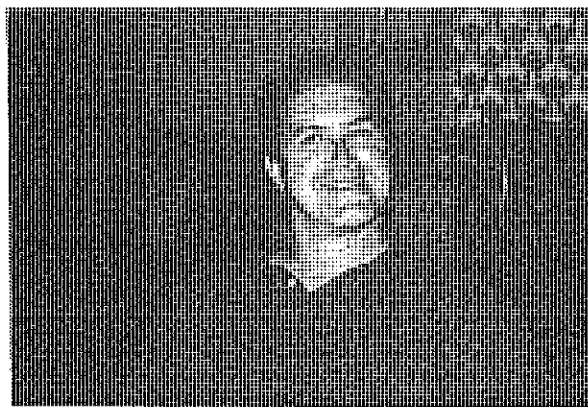
Judith Hurle, Early Childhood Director of Bridgeport Public Schools in Connecticut, is responsible for a very successful Follow Through implementation in Bridgeport. She not only campaigned to get a Direct Instruction Follow Through program in the city, but also serves as an administrator of the program. She makes sure the needs of the program are met by dealing with issues that administrators typically ignore, such as a teacher who is not performing, the schedule doesn't quite work, or the group of children that is not progressing at an adequate rate.

If there are unanticipated training needs, she sees to it that training time and substitute teachers are provided. Because of Judy, Bridgeport is able to respond to the full range of problems in a timely manner, resulting in a program that produces standing performance gains.

Judith Hurle is a true advocate of children, many of whom are demographically predicted to perform at the historic levels of SEL and ghetto children in Bridgeport, but who now have a very good chance for academic success. Thanks, Judy.

ADI Research of the Year—Edward Kameenui

Edward Kameenui has conducted extensive research in the area of effective instructional practices. This research has evaluated the implications of the Direct Instruction theory in a variety of contexts, such as reading, mathematics, and social studies. In his research, he has sought to determine the effectiveness of a variety of methods—explicit instruction, graphic organizers, example selection, and so forth. His research has made a substantial contribution to what we know about designing effective instructional practices.



Ed Kameenui

Annual ADI Awards—Continued

Ed won the award for excellence in research not merely because of the quality of the research he has conducted, which is extensive — over 30 articles, as well as three books and eight chapters — but also for his promotion of the scientific method in education. Ed argues articulately and passionately for a scientific pedagogy of education. His interest and his research have led him to focus these efforts on curriculum reform, particularly for students with learning disabilities. As Ed has written:

Most assuredly though, the development of a pedagogy based on that science would require...the

recognition of the immense complexity of learning disabilities and the importance of curriculum to the development of both the science and pedagogy of learning disabilities. Although we have made progress in recognizing the complexity of learning disabilities as a psychological, historical, and theoretical construct, very little progress has been made in recognizing the structure of curriculum as an empirical, not to mention, conceptual construct important to the development of a pedagogy (scientific or not) of learning disabilities.

Ed's research and his teaching clearly makes education more of a profession. ♦

See pages 42-45 for information on the...

17th Annual Eugene Direct Instruction Conference

August 5-9, 1991

What's NEW at this year's conference:

Based on your feedback, the ADI Board has redesigned this year's conference:

Keynote Speakers

- ☛ Jean Osborn - Assistant Director, Center for the Study of Reading
- ☛ Barbara Bateman - Professor, University of Oregon
- ☛ Zig Engelmann - Professor, University of Oregon
- ☛ Linda Youngmayr - Administrator, Modesto (CA) City Schools

New Sessions

- ☛ Reasoning and Writing — A new Language program for K - 3rd grade.
- ☛ Connecting Math Concepts — A new math program for K - 3rd grade.
- ☛ Higher Order Thinking Skills
- ☛ Administrative Issues in Instruction
- ☛ Literature and Reading Mastery
- ☛ Applications of Curriculum Based Assessment to Direct Instruction
- ☛ Research on Reading Comprehension
- ☛ Beginning Reading Instruction - What works
- ☛ Design of Direct Instruction Programs

Treasurer's Report—

by Wes Becker

The Association continues to limp along financially. Without the Handicapped Preschool, which will be forming its own non-profit corporation in the near future, the core of the Association (which focuses on conferences, the ADI News and discount book sales to members) would have assets of approximately \$24,000. The loss for the year comes from these basic ADI operations, not the preschool.

WE NEED SUBMISSIONS!

Send your articles or ideas for articles to:

Wes Becker, Editor
ADI News
PO Box 10252
Eugene, Oregon 97440

Association for Direct Instruction Treasurers Report for Fiscal Year Ending June 30,

Cash Balance	\$3
Inventory, equipment, other	\$1
Total Assets	\$4

Income

Handicapped Preschool	\$32
Memberships	\$1
Book Sales	\$2
Conferences	\$8
Other	\$

Total Income	\$45
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Expenses (Direct)

Preschool	\$27
ADI News and book cost	\$3
Conferences	\$9

Total Direct Expenses	\$40
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Administrative Expenses

Preschool	\$4
Membership, News and books	\$
Total Administrative Expense	\$5
Percent of total expenses	(1

TOTAL EXPENSES	\$45
GAIN (LOSS) FOR YEAR	(\$

Comments from Those Who Know

Berta Bender from Monterey, California, sent the following comments to the ADI News. The first four are from her students in her Elementary Resource Program. The last is from an older man who attended a presentation on DI reading.

About Reading Mastery IV. This comment was made by a fifth grader and was mostly about the solar system. "What grade would I have to be in if I weren't in here, so I could learn about this?"

About Corrective Math. This conversation took place with a fifth-grade girl in the middle of a long multiplication problem. "How come I get everything right in this, but I don't get anything right anywhere else? I said, "Because the authors wrote

these books so that they would work like you." She said, "I don't have any idea what even talking about. The only thing I know for these books make my mind happy."

After a day with a very attractive woman that had no experience with DI, this comment was made by a fifth grade boy: "She isn't smart to work in this room."

After a presentation on DI Reading. This comment was made by an older man that had not read until all other people left. "I don't read. I can't understand everything you said, but I think I could learn to read if somebody could teach me the way."

Why I Sued California

by Siegfried Engelmann

The suit that I brought against the California State Board, Department of Education and Curriculum Commission, was an attempt to reverse what I see as extremely sick practices in education (not merely in reading). The practices go something like this:

- Educators become enamored with a theoretical stance.
- They find, at best, peripheral data or anecdotal information to support it.
- They completely avoid all forms of data, field testing, and input from people who have successfully taught the subject or discipline.
- They formulate guidelines that require instructional practices to adhere to the prescribed stance.
- When the plan fails, they experience a convenient loss of memory because, in the meantime, they have adopted a new, theoretical position.

The greatest paradox with this entire process is that the *rhetoric* issued by the mainline educators is rich in moral indignation and uncompromising in what the educational system must do to create equity for all and to maximize the individual potential of all children. While the rhetoric abounds, the rather ugly fact is that not one single person within the decision-making hierarchy has an expert understanding of teaching or management. Not one person has demonstrated the ability to create equity, to teach kids in a way that improves their performance far above that predicted by demography. Experts—people who actually know how to do it consistently and have demonstrated knowledge of what it takes to create “equity” or realize “potential”—have precisely no input in the formula. Instead, the process is dominated by extremely naive cognitive psychologists, social workers, and decision-makers with teaching skills and knowledge no greater than that of the garden-variety traditional teacher.

These decision-making practices are nowhere more dramatically demonstrated than in California.

First, the theory: Whole Language. The evidence that it works: None.

A correlation does exist: New Zealand, the most literate nation in the world, uses whole language. Unfortunately, this “data” is based on the performance of 18-year-old students, and equally unfortunately, New Zealand has a rigid tracking system. *Less than 15 percent of the 18-year-olds in New Zealand are students.*

Aside from this “fact,” what data does the proach have? None. Furthermore, its theoretic cornerstone is not capable of supporting very much weight. Whole language is based on the supposition that written language is language. Unfortunately, reputable linguist would accept this description. Ronald Langacker put it in his book, *Language and Structure*, “Language is speech and the linguistic competence underlying speech. Writing is no more than a secondary, graphic representation of language.”

The assumption of whole language is that work any aspect of language induces reading skills. That’s true, one wonders why so many intelligent people who lived 100 years ago were illiterate.

Obviously, reading is unlike most language changes. The closest parallel to reading and speech would be an exchange in which one speaker says something and the second repeated it verbatim. (“The second person is the “reader.”)

Speaker 1: You are a nice person.

Speaker 2: You are a nice person.

Speaker 1: Did you cut your finger?

Speaker 2: Did you cut your finger?

Aside from exchanges involving an echoic person these “conversations” are rare. Reading, however, involves registering or saying exactly what the text says. The extent to which “deviations” are accepted is the extent to which the person is not “reading”—guessing or being preempted from understanding what the text says. Reading is like language only one sense: once you register what the text says, you understand it. Once somebody says, “That man is on the horse,” you understand what that means. You don’t distort it to something like, “What man is on horse,” which unfortunately is what word-guessing sight readers might do.

Support for whole language comes from Kenn Goodman; however, Goodman’s position is clear theoretical camouflage for the fact that whole-language and sight-reading approaches induce word-guessing. Goodman tries to justify word-guessing.

It’s interesting that whole-language advocates are decision makers who are endorsing whole language. Don’t laugh when they present some of Goodman’s arguments. Perhaps the grand prize winner is the one that he and his wife proposed in “Twenty Questions About Teaching Language”:

Early in our miscue research, we concluded that a story is easier to read than a page, a page easier than a paragraph, a paragraph easier than a sentence, a sentence easier than a word, and a word easier than a letter.

This is a very interesting position because we have a fair amount of data about how many trials and how much exposure it takes for a child to learn to read a letter. In fact, a fair number of children come into kindergarten with ability to read not only a letter, but possibly most of them. What's perhaps most fascinating about these children is that they can't read. It would be tempting to conclude that they are some sort of developmental aberrations that somehow failed to learn to read stories, which, according to the Goodmans, is many times easier than reading letters. These strange children didn't even learn the second-easiest or third-easiest category—reading pages, paragraphs, or even sentences.

How could anybody read this sort of drivel and not laugh? One might be tempted to suppress belly laughs if the Goodmans' "miscue research" had led to superior instructional practices, or any data that improved the teaching of reading. Unfortunately, there is no such data. There's no suggestion that the Goodmans are any better at teaching children to read than the average language-experienced teacher who produces a fair percentage of functional non-readers and poor readers.

The state of California apparently reasons a lot like the Goodmans. To support the whole-language assault on reading, the California School Leadership Academy assembled a 250-page packet for training administrators. The articles in the packet share a lack of understanding of instruction. One, written by Karen Galeano, is titled "Mother Goose in the LES Classroom." Galeano suggests that Mother Goose is appropriate for elementary-grade, limited-English students. Her pedagogy is as sophisticated as her understanding of the programmatic needs of limited-English children.

When a child has a chance to comment on a poem, and his words are written by the teacher and shared ..., two things happen. First, the child realizes the value of what he says. His words are important enough to be shared with his classmates. He becomes a 'published author.' Second, he can go back to his words and read them, ... or pretend to, if he can't read yet ... he knows that these marks on the paper represent what he said. This is written language and has meaning.

Possibly Galeano's children are going at it the wrong way. They may be trying to read a mark at a time, rather than doing what the Goodmans' suggest is easier—reading the whole story.

The most insulting article in the packet carries a ponderous title, "Equity and Access in a Lang Arts Program for All Students." The article is written by Phillip Gonzales. The basic suggestion, and that is apparently endorsed by the state of California, is to put all children, from gifted to LES, in the classroom and present the same excursion into literature to all of them. Gonzales' reasoning (such as assumes that if all kids are in the same place and being treated to the same discussion, there must be equity of some sort. Equity to all, in other words, boils down to whether children have a seat in the classroom in which literature is being discussed.

Just as common sense would put a cloud over the Goodmans' assertion that a child could more easily read a paragraph than a sentence, and that a limited-English child could learn much from "dinner around" with *Mary had a Little Lamb*, there are several inconsistencies in Gonzales' position. Here's an idyllic picture:

Important issues, historical frames, and other background information useful in helping students prepare for the lesson are ... explored with students. In *Charlotte's Web*, students discuss a barnyard and the animals, the country fair, and the nature of fables. In *The Night Thoreau Spent in Jail*, groups of students research and discuss issues related to the Spanish-American War, such as 'Manifest Destiny,' Spanish colonialism, and the Monroe Doctrine ...

Since the teacher is not able to orchestrate all the learning of diverse individuals, Gonzales' model classroom operates according to the California notion of cooperative learning. Gonzales suggests that each student is responsible for the learning of others.

The bottom line, however, is the rather sick notion that even Gonzales knows it won't work.

Whenever limited-English-proficient students do not understand a lesson, the teacher and other students vary the way it is presented. When written language is not understood, then it is helped by discussions. When discussions are not comprehended, visuals accompany the lesson. When visuals don't communicate the message, dramatizations are employed.

So the real equity that Gonzales describes is a classroom in which Juan receives a puppet show while Hilda and some of the others are studying manifest destiny in *Charlotte's Web*.

But, again, nobody laughs, and I sometimes wonder whether anybody reads with understanding.

California cannot legitimately promote this sort of inequity; it's against the California law that refers to the grade-level performance of students. Yet, California does it. California should not be permitted to solve questions of facts about effectiveness with mindless rhetoric. The solution should be den

Why I Sued California—Continued

strations of what works, data, facts about the degree to which teachers can be trained, and demonstrations of successful implementations. Instead, the process seems to be one of cerebration. Somebody identifies a problem with traditional tracking systems and, through some metaphysical gymnastics, the person knows how to solve the problem. This knowing has nothing to do with hands-on experience. It doesn't involve surveying successful implementations or questioning somebody who does know. It involves organizing words on paper. The words must be good words, such as **equity** and **literature**, and **cooperation**. And they must be put in the context of an exclusive franchise on morality. For anyone to suggest alternatives to these mandates is to have a moral deficiency.

The entire adoption process in California is an extension of this basic philosophy. Submitted material goes through two different reviews. The first is "legal compliance." The purpose of this review is to make sure that the program doesn't promote anything that is dangerous to someone's health or prejudicial. If the submitted programs pass the legal review, they go through a "content review," conducted by the state's Curriculum Commission. This commission is composed of people from various walks of life. Not all of them are in education, and even those who are have not demonstrated exceptional teaching ability. The Commission and the Department of Education make up criteria, guidelines, and the like. Then they bring in "evaluators," who are largely garden-variety teachers from different districts, to review the submitted program.

The final recommendations of the Curriculum Commission are presented to the board at a "public hearing."

The basic problem with the system is: Why would one assemble less than experts who have demonstrated exemplary results to make decisions for the state? Plans for saving an endangered species are normally not formulated by people who have no particular knowledge of the species. Why would the state consider an evaluation plan no more sophisticated than the teachers in a rural community could develop?

On the conceptual level, there are many apparent inconsistencies. Some have to do with legal compliance. For instance, how is it possible for *The Old Lady Who Lived in a Shoe* to beat her kids and provide them with a perfectly inappropriate diet (broth, without any bread)? If a modern writer tried to get

such a story through legal compliance, it wouldn't make it, but literature has some sort of immunity. Is it possible that Juan understands this difference as he studies "Mother Goose" in the LES classroom?

On the practical level, the evaluations are a farce. The legal-compliance review of *DISTAR Reading Mastery* resulted in 24 pages of citations, covering nine categories. They ranged from the panel's judgment of what might be dangerous to the way handicapped people are represented. The level of sophistication of the citations, however, is illustrated by this pair of juxtaposed citations for the Level 3 program:

Whole book limited to Caucasian and Black characters.

Pp. 22 and 23 Story and Illustration: Stereotyping of Indians—not all had canoes.

Actually, if we were guilty of these infractions, we should win some sort of award. While dealing exclusively with Caucasians and Blacks, we stereotyped Indians.

The situation becomes even more absurd when we move from the legal compliance to the content evaluation. The criteria that are used are liberally laced with propaganda, some of which is incredible. While promoting whole language, the *Framework* solves the problem of teaching reading largely by fiat.

Even those children who cannot read or write before first grade naturally learn skills within the context of getting and making meaning.

The problem is solved. The solution should be eminently obvious in any classroom that has used whole language. The state, one would assume, would have ample evidence that this approach worked before issuing a state-wide mandate. Unfortunately, the state has no such evidence. The state has provided not one demonstration that this glib assertion about how kids learn skills "naturally" has any truth. The state continues to have children who are below publisher norms and who are dropping steadily.

The criteria for evaluating programs uses a quaint weighting system to arrive at a "score" for the submitted programs. Possibly this weighting system was formulated by someone who has been in the used-car business or studied under loan sharks because it's pretty slippery. Basically, what it does is weight the criteria so that of the seven categories used to "evaluate" the material, one now becomes worth 35 per cent of the total score. That category is

the "quality of the literature." Each of the other categories (trivial matters like skills, and the like) are worth an average of 10 per cent each.

The most incredible aspect of the adoption process is the role of data and facts about program effectiveness. One section of the criteria lists the information that the Curriculum Commission will request from publishers about their submitted products:

1. A description of the product and its relationship to the *Framework*.
2. A description of the product development process.
3. A description of the field-testing process.
4. An explanation of how materials are to be developed, improved, and/or maintained on the basis of field-testing data collected.

One gets the sense that the state is concerned with data. The following sentence, however, squelches this sense:

This additional information is not to be considered as part of the criteria for recommending materials to the State Board of Education in the 1988 English/Language arts adoption.

Does that make a lot of sense to you? It must make sense to a lot of people in California, because as far as I know, nobody made any strong objections to it.

If there is an overall theme conveyed by the criteria and the *Framework*, it is naiveté about instruction. Actually, this naiveté approaches what might be more accurately labelled brain-dead logic in some instances.

The criteria insist that the programs should "guide students through a range of thinking processes (e.g., evaluating, comparing, concluding, inferring, analyzing, and summarizing) without using a hierarchical approach (i.e., assuming that students must acquire one type of thinking before being able to deal with another type)."

I wonder how the program demonstrates that it is anti-hierarchical. Possibly, nothing is in a particular order. Maybe the teacher can start at any point and present whatever she wishes, either by going forward or backward in the text or the presentation book. Possibly the children are directed to do things through the selection of random numbers that indicate the pages they read first, next, etc. Stated differently, if some things are presented earlier in the program and some things are presented later, and if some of the late things are "related to" earlier-taught things, the assumption of a "hierarchical approach" is categorically implied.

Here's some brain-dead logic about teaching spelling: According to the criteria, students "only spell when they write, and the only words they need to know how to spell are the words needed for

writing; therefore, one of the best instructional strategies is to generate students' spelling tests from their writings."

Obviously, these tests must be individualized because not all children (we presume) are using the same words. But when we test children on individual words that appear in their writing, we're apparently doing this so we can teach them to spell. And if we teach them to spell the words they use when they write, we have prepared them eminently well for writing what they have written. We haven't anticipated that they might need words for a new writing assignment. No, that would be far too "hierarchical."

The content review of *DISTAR Reading Mastery* provided no particular surprises. The program was soundly rejected. The three panels that evaluated it came up with many of the same conclusions.

Panel C had trouble with a series of stories in Level 3.

In Reading Mastery 3... there are four tales from the *Aeneid*, not written in their original form.

Actually, the stories were about Ancient Troy and deal with more than the Trojan horse (which is the only legend in the *Aeneid*). More relevant, however, is the question of how much we would have improved the selections by presenting them in their original form—Ancient Greek.

Before the state board made final selections, I wrote to board members. I indicated the problems with the adoption process. I sent articles that documented the comparative superiority of *DISTAR Reading Mastery*. I even presented at the public hearing for the Commission's recommendations. The president of the board, Francis Laufenberg invited me. In a letter, he wrote:

I realize that attending this meeting would represent both a hardship and an expense for you, but I urge you to do so if at all possible in order to present and discuss your thoughts orally. . . . I can assure you that we will give full and fair consideration both to the Commission's recommendations and to all the concerns which may be voiced regarding those recommendations.

Actually, I think Laufenberg exaggerated in his letter. One presenter at the meeting was Richard Anderson, Director of the Center for the Study of Reading, at the University of Illinois. Anderson voiced concerns regarding the entire adoption process. He indicated that "the adoption recommendation before you is flawed—not simply because of quirks this year—but because of inherent shortcomings in the state-wide adoption process." He observed that the process "is vulnerable to ideological fashion. It is expensive and time consuming. Scholars who have studied the state-wide adoption process

Why I Sued California—Continued

concur that it is an unwise intrusion in the marketplace. Ideally, there would be no state adoption at all." Anderson also pointed out that research supports phonics instruction in the beginning grades but that the rejected programs "have a reputation for intensive phonics instruction in the lower grades."

My attempts to "present and discuss" my thoughts "orally" were frustrated by the format of the meeting. Like most of the other presenters, I was limited to two minutes. I tried to point out that the plan wouldn't work, that it will fail. I asked what the board planned to do when it did fail.

After giving my concerns "full and fair consideration," the board followed the recommendations of the Curriculum Commission and rejected *DISTAR Reading Mastery*.

Why did I sue the state of California? Primarily because I think of teaching as something noble and something that requires not only a lot of technical skill, but also a supportive system. I think it's wonderful to help children through instruction—particularly those kids who otherwise probably wouldn't make it. I sued California because I'm tired of deci-

sions on instructional matters and teaching being handed down by people who obviously have no demonstrated expertise in any aspect of teaching. I sued California because, although I like spotted owls, fur seals, and black-footed ferrets, I'm more fond of children who are endangered and who must rely on folks like Honig, Gonzales, and Laufenberg as advocates. I sued California because I've lost whatever tolerance I may have had for a system in which it is possible—often easy—to correct problems of "inequity" in the classroom, but it is impossible to get to the teachers and the kids because of guidelines made by bureaucrats whose rhetoric far outdistances their performance.

I sued California because I wanted to hasten the recognition that the California initiative is an illegal farce. Right now, there's enough evidence in any district using whole language to categorically show that it does not work; however, the state will continue to be illegal and less than knowledgeable about how to teach children to read until the public wises up and recognizes the difference between honest reform and Honig playing house with our kids. ♦

If you know of outstanding DI teachers, administrators, supervisors, or researchers, you might want to nominate them for one of our annual awards for Excellence in Education. Send a letter with details to:

*Awards Committee
Association for Direct Instruction
PO Box 10252
Eugene, OR. 97440*

Deadline: July 1, 1991

Reading Instruction for At-Risk Students— *Implications of Current Research**

by Russell Gersten and
Joseph Dimino
University of Oregon

In what some consider his greatest poem, William Butler Yeats confronted the issue of creativity, probing the factors that lead to the creation of great poetry. He did this in the form of a dialogue between two men, much like a turn-of-the-century Siskel and Ebert.

One claimed that "style is found by sedentary toil/ And by imitation of great masters." He was, of course, alluding to the fact that even the most idiosyncratic artists—Cezanne, Joyce, Yeats himself—typically begin their careers with fairly traditional work, often in the style of masters of the past. His counterpart indicated it took a good deal more than imitation and study to develop a personal style.

In the most heated part of the debate, one man asserts that, to write great poetry, one must first discover one's true self. He is violently attacked by his friend, who says, "That is our modern hope, and by its light/ we have lit upon the gentle, sensitive mind/ And lost the old nonchalance of the hand....We...half create/ timid, entangled, empty." The two friends share their divergent insights into the careers of Keats and Dante. They ponder how they developed their insights and visions of reality. The debate continues, unresolved, as night turns into morning.

The debate about how to effectively teach reading to at-risk students has continued, unresolved, for almost a century (Carbo, 1988). There is every reason to believe it will continue throughout our lifetimes. In the midst of a recent debate, Pearson (cited in Rothman, 1989) declared that "reading is more a religion than a science." The purpose of this Bulletin is to explore the various approaches advocated for teaching reading instruction to at-risk students, discuss the research underpinnings of these approaches, and examine the practical implications of the models. In no way do we attempt to resolve this debate. Yet we do hope to shed some insights into the extraordinarily complex issue of how to provide quality reading instruction to students who experience difficulty.

*Reprinted with minor adaptations from the Oregon School Study Council January, 1990, Volume 33, Number 5.

The two major orientations toward reading instruction for at-risk students are quite divergent. The first approach tends to stress systematic instruction in phonics and word-attack strategies. The belief is that if students cannot read fluently and accurately, they certainly will be unable to comprehend. Usually, the approach calls for an early emphasis on oral reading, with a gradual transition to increased amounts of silent reading. The major defenders of this approach have been Chall (1967 and 1989), Flesch (1981), and, most recently, cognitive psychologists such as Adams (1989). They all react to the lack of systematic word-attack instruction in most conventional basals.

The second approach has been called "whole language," or literature-based. It emphasizes the unity between reading and all other forms of communication—writing, speaking, listening. Whole-language proponents decry the emphasis on skill sheets and instruction in discrete comprehension or word-attack skills. They feel that reading instruction should be more spontaneous, more authentic, more integrated, more fun. They believe that the primary goal is for teachers to encapsulate and model the excitement of reading.

The whole-language approach will be discussed first, and the direct-instruction tradition is discussed next. Then, a survey of emerging trends in comprehension instruction is presented. Finally, the conclusion presents a synthesis of the contributions of the whole-language and direct-instruction traditions.

Whole Language/Literature-Based Approaches

When Pearson alluded to reading being more of a religion than a science, he certainly had the advocates of whole-language approaches in mind. In the past few years, an ever increasing number of reading specialists (Harste, 1985; Goodman, 1986; Routman, 1988)—and some state departments of education (California State Department of Education, 1988)—have decided that whole-language approaches to teaching reading are the answer to the problems of at-risk students.

Whole language views the development of literacy to be interrelated with all other facets of language development—speaking, listening, expressive writing. They feel that students can acquire literacy in much the same way as they acquire oral language—

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naturally (Altwerger, et al., 1987; Goodman, 1986). Whole language is an outgrowth and refinement of the "language experience" approaches of the sixties and early seventies, although there are important differences. Whereas language experience stressed experience charts created by children dictating to teachers, whole language stresses the reading of quality children's books. Books with predictable patterns are deemed especially useful for young students. For all ages, real books—not edited versions—are recommended as texts to be used.

Whole language stresses children's writing, often using invented spelling (Harste, 1985). Whole language attempts to improve students' "ability to think with words, and... stimulate language development in all media of expression and reception, with the ultimate goal as reading the writings of others" (Stahl & Miller, 1989).

Generally the whole-language advocates do an excellent job of critiquing some of the worst features of conventional basal reading instruction for students deemed at risk. They cite the increasing number of studies demonstrating that, year after year, students placed in "low" reading groups receive too much instruction in isolated skills and sight words, as well as dubious skills such as homonyms and alphabetization, at the expense of comprehensive instruction (Allington, 1983; Garcia, et al., 1988; Collins, 1982; Moll, et al., 1980). Their diet consists primarily of ditto sheets, flash cards, and drills on sounds in isolation, occasionally punctuated with round-robin reading. Students placed in high-ability groups, on the other hand, have many more opportunities to work on comprehension (Collins 1982). Allington, in particular, noted that low-achieving students rarely have the experience of sustained reading, let alone the opportunity to discuss, analyze, and write about what they read.

Whole-literature advocates realize students do need to spend some time on phonic word analysis skills in the early grades. They believe, however, that this instruction should *always* be integrated with the literature being read, never taught in isolation. The following excerpt from a whole-language manual (Cullinan 1987) gives readers a sense of this approach:

The teacher reads the story aloud and points to the words. Next, the group reads the story through several times in unison, *although some students may join in only on repetitive refrains....* As children repeatedly hear the words and see the print, they make associations between letters and sounds; *many chil-*

dren figure out the code by themselves. Teachers ask students to point to words that begin alike or ones that have similar parts; phonics is taught in context, not in isolation." [emphasis added]

Research has consistently shown, however, that few at-risk students will "figure out the code by themselves."

Joy and Authenticity

A major goal of whole-language instruction is to bring a sense of wonder and joy back into reading instruction for at-risk students (Routman, 1988, California Framework, 1988). These assertions are, in fact, a genuine reaction to the nature of much conventional reading instruction, especially for students with problems. Boyer's (1983) study concluded that "classes are at times inspired, occasionally dreadful and most often routine." Goodlad (1984) and associates found "emotionally flat" classrooms, with little exuberance, joy, laughter, abrasiveness, praise, or corrective support of individual student performance, particularly in classes containing at-risk students. Duffy's (1983) observations of reading instruction noted that many teachers are almost obsessed with establishing and maintaining routines for "getting through" all the skill sheets and round-robin reading activity. Discussion of comprehension questions was almost always done in a rush. Few teachers spent any time explaining concepts, probing students, providing feedback, or clarifying. Teachers virtually never stopped to see what kids thought about the story, or even to see if kids understood the story. If a student answered a question incorrectly, the teacher moved right on to another student in the search for the right answer.

In discussing this issue, the whole-language literature often takes on an almost mystical tone—typically peppered with testimonials about how teaching regained its meaning for an individual after she or he discovered whole language. Accounts indicate that whole-language instruction is a process, not a particular method, and a teacher must authentically share experiences with students (Garcia & Pearson, 1989), give up control, and celebrate risk taking (Routman 1988). The hope is that students will also emulate the risk taking, the probing, the aura of experimentation that the teacher models for them, and begin to understand what authentic learning is; that very often questions have many correct answers; and that all literature, great and small, deals with complex human issues rarely translatable to fill-in-the-blank worksheets.

Basals and Real Literature

The past decade has not been kind to basal readers. Researchers have documented the reliance, if not overreliance, of many teachers on the basal teachers' guides, and the fragmented quality of so much of the instruction presented in these series. The earliest basal readers consisted of stories and questions at the end of each selection. Beginning in the 1940s, the writers began to realize that something else must be provided. They created a series of workbooks consisting of comprehension activities to accompany each reader in the series. They developed these activities out of the notion that comprehension consists of a series of skills—for example, sequencing, locating information, identifying the main idea. These exercises rarely were related to the day's reading passage. In the next forty years, the number of skills and number and type of workbook exercises continually expanded. Activities involving dictionary use, alphabetization, homonyms, and synonyms were included.

The conception of comprehension as a series of discrete, measurable skills began to be questioned in the 1970s. The major impetus came from cognitive psychology, with the evolution of schema theory (Anderson, et al., 1979) and constructivist models of reading. According to these views, reading is not a series of orchestrated skills, but an interaction between the reader and the text. We construct meaning as we read. This view has led to a loss of faith and interest in the explicit teaching of skills and a burgeoning interest in the much more exciting notion of teaching strategies. Researchers have tried to isolate the strategies used by excellent readers and to teach these strategies to all. To date, there has been some promising research on this topic, although the findings have often been modest (Pressley, et al., 1989). Many of the studies have been small scale (for example, Idol, 1987).

The basal reader publishers have attempted to adapt to this changing conception to some extent, but many changes have been merely cosmetic. What the publishers previously called a *skill* is now labeled a *strategy* (Center for Study of Reading, 1988; Alexander & Judy, 1988).

Often the basal readers adapt, abridge, or simplify short stories or material from magazines. This practice has been widely attacked. In attempting to improve the readability, the publishers often substituted simple words for complex words, and simple sentences for complex and compound sentences. Yet as Bruce (1984) pointed out, this often makes the material more difficult to understand. By eliminating the "however's" and "because's," the reader can no longer fathom why characters do certain things.

In addition, the plethora of simple sentences and colorless words destroys the author's style. And the abridged versions often lack sections that describe motivation or build empathy. The end result is often boring.

An example from Routman (1988) exemplifies the problem. She presents two pages from a story—first the original version:

Along time ago there was an old man.
His name was Peter, and he lived in an old, old house.
The bed creaked.
The floor squeaked.
Outside, the wind blew the leaves through the trees.
The leaves fell on the roof. Swish. Swish.
The tea kettle whistled. Hiss. Hiss.
"Too noisy," said Peter.

Here is the adapted version that appears in a current basal reader (Holt, Rinehart, & Winston, 1986, *A Place For Me*):

Peter was an old man
Who lived in an old, old house.
There was too much noise in Peter's house.
The bed made noise.
The door made noise.
And the window made noise.
Peter didn't like all that noise.

Routman concluded:

Beginning readers love reading the original version and read it easily and eagerly. The six lines beginning with "The bed creaked...The floor squeaked..." appear nine times in this short, delightful story. The magic of the language, the rhyme and rhythm, the repetition of the above passage and others throughout the book, and the noisy words themselves ("Swish. Swish." and "Hiss. Hiss.") make it fun to read and actually easier than the basal version.

The original version deals with non-concrete imagery of the sounds of the wind blowing leaves through the trees, leaves falling on the roof, and a whistling tea kettle—rich language which leads children to form mental images of the sounds. By contrast, the story language in the basal reflects only concrete objects and then only to make "noise." The poetic language is gone...The child has been deprived of exposure to literary language, so necessary for the development of imaginative writing and a love of literature.

Whole-language advocates have argued for bringing real books into classrooms to replace the dreary adapted text in the basals. Books should be around the classroom for the students to browse through or read throughout the day. If a book is too hard for kids, the teacher can read it to them; in fact, teachers' reading to students is an essential aspect of whole language, and observations of whole-language classes reveal that a good deal of time is spent with teachers reading to students.

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Students who have difficulty in reading need interesting, well-written reading materials to motivate them, rather than reading material with controlled vocabulary, but no style. According to whole-language advocates, the major failure in conventional reading instruction is that students don't know why they are doing these exercises, and are both bored and frustrated with the material they read. According to whole-language proponents like Routman (1988) and Harste (1985), once students understand the purpose of reading and are motivated to learn to read, they will progress rapidly.

Routman (1988) illustrates this point with a personal experience as a remedial reading teacher. She had just finished reading the students a beautifully illustrated children's book, which they loved. They wanted to read it; she refused to let them because it was too hard for them. They insisted, she gave in, and, with adequate practice, they were able to read (or at least memorize) the entire book. She cites how differently the kids responded to reading this book, with its rhymes and large, pretty pictures—as compared to their consistently desultory response to standard remedial reading fare. For the first time, they became interested in reading.

As former remedial reading teachers, we also have experienced such occasions. I (Russell Gersten) remember a virtually nonreading eleven-year-old, Ernest, who slowly, painfully went through the childish, arid stories consisting of only phonetically regular words in the carefully controlled Palo Alto and Merrill series. I brought in a series of British science books—that used a simplified vocabulary. Ernest's motivation and the quality of his reading dramatically increased. I supplemented this with writing activities (in the then fashionable language experience mode). I also read to him daily from a Jack London novel. He was entranced.

Research on Whole Language and At-Risk Students

A recent comprehensive review of all extant research on whole language (Stahl & Miller, 1989) found that, overall, whole-language approaches were no more effective than conventional basal reading approaches. This was true on both standardized measures of reading achievement, as well as more naturalistic measures (oral reading miscue analyses and attitude measures). The researchers found that, although whole-language approaches are commonly advocated for lower-SES populations and groups of at-risk students, they are rarely effective for these groups.

Stahl and Miller did find that whole language seemed to have a positive effect in the area of kindergarten reading/reading readiness activities, where it often produced significantly better performance than conventional basal activities. The effects were reversed, however, in first grade.

The authors present some plausible explanations for these findings. They conclude that the emphasis on listening to stories and writing stories may serve a useful function for at-risk students in kindergarten, in that they get to really see the many purposes of reading, and get a sense of the pleasures that can be associated with reading and writing. The overemphasis on drills and skills and very simple stories that typify many basal series will not accomplish this.

On the other hand, the reversal in first grade may be largely due to the limitations of whole language as a total reading program. Whereas whole language may do a good job in increasing students' motivation to read, it does not provide systematic instruction in how to read. As Chall (1989) recently commented, "phonics as needed" is not a logical approach to teaching reading to at-risk students. It violates all we know about effective instruction. Granted, there are some students who can learn in this indirect, incidental fashion, especially those middle- and upper-SES students who come to school with some skill in reading. Delpit (1988, cited in Stahl & Miller, 1989) thinks that whole-language approaches may simply give these students an opportunity to demonstrate what they have already learned at home.

But the majority of low-SES students need review, practice, clarity, systematic feedback—that is, compassionate instruction in how to "break the code." Chall (1989) concluded,

To say that teachers should teach phonics only as needed is to put a greater burden of responsibility on teachers and children than theory, research, and practice support. And it puts at even greater risk those children who need the instruction most—low-income, minority, and learning-disabled children. [emphasis added]

Chall's conclusions parallel observations made by Stahl and Miller (1989), Delpit (1988), and Garcia and Pearson (1989)—that whole language does not make sense as a *comprehensive* approach for teaching reading to at-risk students. While reflecting on the Stahl-Miller analysis, the senior author returned to his experience with eleven-year-old Ernest. Despite the increase in motivation when Ernest read (and

wrote about) real books and the initial increase in reading performance, Ernest never really learned to read.

There are numerous positive features to the whole-language movement. The first is its emphasis on listening comprehension and its relationship to reading comprehension. The second is the emphasis on writing and deemphasis on work sheets.

Perhaps most important is its emphasis on the use of quality children's literature to replace the abridged, adapted material so prevalent in the basal series. Analysis of literature can be more productive than the isolated skill practice and exercises that have characterized basal series. Clearly, comprehension activities should be directly linked to stories and novels students are currently reading. What is less clear is how to seriously and systematically help students comprehend and analyze what they read.

The Direct Instruction Tradition

Direct instruction, like whole language, developed as a reaction to perceived weaknesses in conventional basal reading approaches. However, the developers of the model (Becker, 1977; Engelmann, 1975) and those who came to advocate most aspects of the model based on their independent research on effective reading instruction (Anderson, et al., 1979; Rosenshine & Stevens, 1984; Idol, 1988; Stallings, 1980) had a very different analysis of what was wrong with reading instruction and how to fix it. Essentially, their view was that reading instruction for at-risk students needs to be more precise, clearer, and more systematic.

They saw conventional instruction as geared to the average student, so those with problems don't get enough practice before moving on to a new topic. To direct-instruction advocates, a wide range of specific, concrete examples are necessary. As Idol (1988) comments: "If concepts are presented briefly and are not followed by sufficient practice opportunity, the poor reader is likely to flounder." Durkin (1984) documented that teachers' guides for basal series provide few examples and very vague directions for how to teach.

It is important to note that there are many, many different definitions of *direct instruction*. To some, direct instruction means any time the teacher talks to students (as opposed to supervising seatwork). This can involve lectures to students or reviews of homework assignments. This all-encompassing view seemed to be corroborated by a recent ASCD survey of middle schools in which 97 percent reported that they used direct instruction. The core definition of direct instruction, however, is quite a bit more specific.

The First Decade: Project Follow Through

In order to understand the term *direct instruction* and the evolution of the concept, it is necessary to go back to its roots. Direct instruction was originally conceived as a means to accelerate learning for economically disadvantaged and other at-risk populations. The concept, the instructional methodology, and the principles of curriculum design were devised by Siegfried Engelmann for use in the Bereiter-Engelmann (1966) preschool for disadvantaged children and were then expanded for use in Project Follow Through.

Follow Through was implemented in some of the poorest, most disorganized communities in the U.S. Students often entered the program in kindergarten with limited exposure to reading and language concepts. These were the type of children likely to fail in school. In fact, the evaluation of Follow Through conducted for the U.S. Office of Education indicated that, without an exceptional intervention, many of these students did do quite poorly, ending third-grade reading at about the 28th percentile (Stebbins, et al., 1977).

Direct instruction concerned itself with what many perceive as mundane decisions—the best wording for teachers to use in demonstrating a concept, the number of examples necessary for low-performing students to truly master a concept, exactly how errors are corrected, how many times each morning the lowest-achieving students get to read.

One image permeates all thinking about direct instruction. It is an image of students' experiencing unremitting success in all areas of academic work. The idea was to create a learning environment so that students who typically would fail almost always succeeded. This could not be done with conventional textbooks, so new curricula were developed. Teacher training stressed high levels of teacher-student interaction. It emphasized the role of the teacher not only as a conveyor of information, but as a provider of feedback and guidance to students.

The major operating principle behind the early work on direct instruction in Follow Through was that, if students experienced unremitting success in all their academic work, very different things would happen to these disadvantaged students. According to the philosophy, if students experienced success each day at a high rate (85-95 percent), and received clear feedback the few times they made errors, their self-confidence, attitudes toward reading, and reading ability would increase. And then learning to read would be viewed in a positive light.

It was this image of unrelenting success that drove most of the research, theory, curriculum development, and teacher training procedures associated

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with direct instruction. A set of principles was developed to accomplish this goal. These principles were field tested, revised, and evaluated in twenty low-income communities between 1969 and 1977 and found to be effective in raising reading performance of thousands of low-income students (Stebbins, et al., 1977; Becker 1977) to levels close to their middle-class peers, that is, the 40th percentile.

Direct Instruction Since Follow Through: Legacy of the 'Effective Teaching' Research

The effectiveness of the essentials of the direct-instruction approach was corroborated by a host of independent researchers (Anderson, et al., 1979; Idol, 1987; Gersten, et al., 1982; Stallings, 1975; 1980). Their studies of both pullout remedial reading instruction and conventional reading instruction in the classroom helped develop a richer picture of the instructional variables that enhance reading achievement for at-risk students. Researchers have synthesized the findings across a whole range of studies examining effective reading instruction for at-risk students. Stein, Leinhardt, and Bickel (1989) noted the findings are remarkably uniform across settings (mainstreamed classroom, special pullout program) and across grade levels. These features have been summarized so extensively in the past that only a brief summary follows.

A key insight of the research is that teachers who work effectively with at-risk students spend a good deal of time actively teaching groups of students, rather than supervising seatwork or engaging in lengthy one-on-one tutorial sessions. Effective teachers are explicit about the goals of the lesson and spend adequate time explaining a concept or supervising while a group practices a new skill before the students are asked to perform independently. Clarity is essential. There is growing evidence that explicit step-by-step instruction is optimal for at-risk students. Teachers need to not only explain the concept or strategy, but actually show students how to apply the new strategy over a range of examples (Pearson & Dole, 1987; Gersten & Carnine, 1986).

Christenson, Ysseldyke, and Thurlow (1989) stress the importance of feedback. They note that in typical classrooms teachers interact differently with low-achieving students than with their peers. To be successful with at-risk students, teachers must ensure that the students are provided with many opportunities to respond during each lesson and are given a good deal of feedback.

Effective teachers are always concerned with mastery throughout the lesson. As Stein, et al. (1989) note, "*Mastery does not materialize from brief encounters, but rather develops with academically engaged time spent on material that is at an appropriate level of difficulty and that is subsequently tested.*"

The key underpinning of this approach is that at-risk students learn to read when they receive instruction that is clear, when they are given many opportunities to participate, and when they are provided with clear feedback on the accuracy of their responses. It is important to note that most advocates of direct instruction do not necessarily only stress phonics during the initial stages of reading instruction. Systematic instruction in comprehension is advocated as an essential part of direct instruction (Idol, 1988; Carnine & Kinder, 1985).

Nagging Concerns about Direct Instruction

As the 1980s drew to a close, many were expressing concerns about these findings. Some feel that with direct instruction the teacher is always in control, always ensuring all kids get adequate feedback, constantly assessing how well kids are doing. To many, this does not seem democratic enough or natural enough. Many wonder how kids will ever learn to function independently (for example, Peterson, 1979).

Further, Cazden (1983, cited in Gage, 1989) shared the sentiments of many when, in 1983, she concluded that direct instruction "can only be implemented in an authoritarian, manipulative, bureaucratic system." The resentment toward any type of top-down technocratic teacher training is strong (for example, Rosenholtz, 1989).

What, then, is the legacy of this research and what is its relevance for contemporary conceptions of reading instruction? The process-product or "effective teaching" research made at least one major contribution. The major researchers all looked at the interactions that occur during classroom reading instruction using low- and moderate-inference observational systems. Unlike previous researchers, they did so without regard for the label or brand name a particular teacher or school puts on its reading program, without inquiring as to the teacher's philosophy. The researchers did this intentionally. Their focus was totally on the student, not on the labels the teachers put on events. Their function was to accurately record what really happens to at-risk students during reading instruction and which patterns of teaching enhance reading achievement.

In several experimental studies, teachers were successfully trained to implement these findings to improve the quality of the reading instruction. Stallings (1980) used a highly scientific yet personalized approach to improve the instruction provided by high school remedial reading teachers. She and her staff shared their observational data with the teachers, and made specific suggestions based on these data. Resultant improvements in student learning were noted.

In Follow Through, a special curriculum was used that embodied many of the principles discussed above, especially the clarity of presentation, step-by-step explanations, adequacy of practice, and frequent opportunities for students to respond. In addition, consultants visited classrooms every few weeks to provide feedback to teachers on the use of direct-instruction teaching procedures. Several years ago, an independent evaluator interviewed twenty-one teachers implementing this approach. Although some teachers resented the high level of specificity in the teachers' guides, most saw how it dramatically improved their effectiveness with low-achieving students (Gersten, et al., 1986).

The lower-key approach utilized by Anderson, et al., (1979) also led to significant improvement in student reading performance. In summary, teachers can be trained or coached to implement many of these procedures, and typically there is significant growth in student reading performance.

Another concern is that direct instruction is an effective means of teaching word-attack skills and other skills involving rote learning, but an ineffective method for teaching comprehension. The independent evaluation of Follow Through (Stebbins, et al., 1977) made it clear that this was not true. They found direct instruction to be a highly effective method for improving comprehension of low-income students in the primary grades. Students' performance on standardized comprehension tests was at or close to the national norm level.

Still, there is serious concern about the efficacy of direct instruction as a means to help students read independently and analyze what they have read without teacher guidance. Duffy, et al., (1987) and Rosenshine (1989) called for an expanded view of direct instruction, one that addresses "how to teach a skill when you don't know all the steps." More emphasis is placed on the teacher as facilitator.

As direct-instruction researchers approached the area of reading comprehension, the model has evolved. Newer conceptions attempt to incorporate innovations from cognitive psychology with what we know about effective instruction. Many of these efforts are still in their infancy, having been field-

tested with small groups of students. Results have been consistently promising. The next section introduces some of these approaches.

Emerging Trends in Comprehension Instruction

Most of the new research on teaching at-risk students falls into the category of scaffolded instruction. *Scaffolding*, based on the work of the Russian psychologist Vygotsky, is an instructional process that enables students to solve a problem or achieve a goal they could not accomplish on their own. The teacher concentrates on developing skills that are emerging in the students' repertoire but that are as yet immature (Palincsar, 1986). In scaffolded instruction, the teacher often "thinks aloud," explaining to students in a step-by-step fashion how he or she reached a specific conclusion.

Scaffolded instruction creates a shared language between students and teachers, so that teachers can provide useful, readily understood feedback to students when they need prompts to overcome difficulties (Gersten & Carnine, 1986). There is a great deal of dialogue between teacher and students. As soon as possible, the students take over, and the role of the teacher shifts to that of a coach, pushing students to express their thoughts on increasingly complex issues. Gradually the temporary structure, or "scaffold," is removed, and students perform independently.

In order for teachers to "think aloud" and break down the process of making complex inferences into small steps, some consistent framework or structure must be used.

Approximately sixty studies comparing some type of scaffolded or explicit instruction in reading comprehension with more traditional methods have been conducted. Much of this research has been stimulated by cognitive psychology. Findings have been extremely positive, especially for at-risk students (Pressley, et al., 1989). Two examples of scaffolded instruction follow.

Story Grammar

The analysis of folk tales conducted by anthropologists and of short stories by psychologists early in the century led to a set of rules that described the structure of stories. They discovered that, regardless of age or culture, when humans tell or retell stories, they follow a set pattern. This pattern is referred to as *story grammar*. Story grammar involves the articulation of the protagonist's problem or conflict, a description of the attempts to solve the problem, and an analysis of the events that led to the resolution. Also included is the analysis of characters' reactions

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to the events in the story and the formulation of the story's theme or themes.

To exemplify how story grammar can be used to help at-risk students comprehend narrative material, we will discuss one study utilizing explicit, interactive, comprehension-strategy instruction (Dimino, et al., in press).

In this study, story-grammar instruction consisted of a modeling and a teacher-assisted phase. During the modeling phase, the teacher explained the story-grammar elements and demonstrated how they are found in short stories and how to record them on a story-grammar notesheet. The students and teacher took turns reading to a designated point in the story. Then, "thinking aloud," the teacher said, "I see a problem" or "It looks like we have a problem." The teacher stated the problem and wrote it on the notesheet that was projected in front of the students.

During a later lesson, the grammar elements were determined, and the teacher then explained how these elements are used to generate a theme. Students were taught to generate a theme statement by using the story-grammar notesheet to review all the elements. The teacher indicated that there may be more than one appropriate interpretation of the theme, but that all themes must be justified by the story-grammar elements.

Determining themes was especially difficult for the students. They generated themes that were too specific or simplistic. Three techniques were used to assist the students in developing broader theme statements. First, the teacher reviewed themes from prior stories to illustrate how the events in a story are used to develop a *general* statement indicating what the author is trying to say. Second, the students were offered examples of themes that would not be appropriate for the story that was being discussed. Third, the teacher offered prompts that directed the students to a more general level.

Over three weeks, the teacher gradually phased out his role and became more of a facilitator, helping students with the more difficult concepts and themes. Two or three times a week, students wrote brief essays indicating what they saw as the major elements in the story. The teacher assisted students in seeing how the various story-grammar elements fit together, and in attending to the most germane details. The four-week intervention led to significant improvements in the quality of essays written, responses to questions in the literature anthology, and responses

to both higher- and lower-order comprehension questions generated by the teacher.

Reciprocal Teaching

Palincsar and Brown (1984) conducted several studies that focused on improving at-risk students' ability to comprehend science and social studies material. For each paragraph read, each group of students (under teacher supervision) performed the following four activities:

1. *Questioning*. The readers ask a main idea question about passage.
2. *Summarizing*. The readers integrate the information into a cogent statement that relays the gist of the passage.
3. *Clarifying*. The readers ask for an explanation of vocabulary or concepts that are unclear.
4. *Predicting*. The readers predict what they think the next paragraph might be about.

With the strategy in place, Palincsar and Brown needed to develop an effective training program that would assist students in successfully implementing these four activities. The limited success of earlier comprehension programs was attributed to an insufficient amount of active participation by students.

Palincsar and Brown taught their comprehension strategy via an interactive training program called *reciprocal teaching*. Each instructional episode took the form of a dialogue between teacher and students. During the initial session, after the passage was read silently, the adult teacher modeled the questioning, summarizing, clarifying, and predicting techniques. The students were urged to participate in any capacity, including "playing teacher." At first, students found it difficult to play teacher and lead the discussion. When this occurred, the teacher filled in. As the training progressed, the adult teachers, through the vehicle of the dialogue, assisted the students in sharpening and focusing the quality of their questions and summaries. This approach is an outgrowth of the "cognitive apprenticeship" model.

After ten days of instruction, the students were generating appropriate questions and summaries. The seventh-grade students who participated in this study averaged two to two and a half years below grade level and scored 50 percent or below on daily social studies assignments. The results indicated that students receiving reciprocal teaching were able to perform independently at an 80 percent level or higher on daily assignments. Furthermore, the effects were maintained over a two-month period.

Also, transcripts of reciprocal teaching episodes provided qualitative verification of the improvement in students' dialogues.

The Framing Project

The framing technique (Armbruster, Anderson, & Meyer, 1987) is based on a body of research which suggests that students' difficulty in comprehending expository text is due to their lack of understanding of text structures. Identifying text structures enables the learner to organize the critical information in a passage. Current research has demonstrated that "instructional graphics" (Armbruster, Anderson, & Ostertag, 1987) can be successful in assisting students to determine and organize the important information that dictates a text structure. The macrostructure that develops enhances the oral and written comprehension of the text.

Framing is a variation on the "instructional graphics" theme. A *frame* is an instructional graphic that organizes the text structure/macrostructure of expository passages. Throughout the course of these investigations, two types of frames were used. The first type was similar to an incomplete outline. That is, major headings were given (with page numbers to help the students locate the information), but the subordinate items were omitted. The second type was made up of two parts: the incomplete outline (frame) and an information sheet. The information sheet consisted of squares containing facts with missing words or phases.

The first frame was used in a study that incorporated two experimental conditions. In Condition 1, the students read the text silently and independently completed their frame. After reading, the teacher and students discussed and revised the frame that was completed by the class before the passage was read. This frame contained their prior knowledge and predictions about the heading on the frame.

During Condition 2, the students took turns reading aloud. Then, a discussion about the frame was conducted by the teacher. Again, the frame completed prior to reading was revised. In both conditions, the teachers asked the students to substantiate their contributions with documentation from the text.

Three subsequent studies using the second type of frame (that is, the frame and the information sheet) were conducted. In these studies, which contained only one experimental condition, the students were placed into heterogeneous cooperative learning groups. Each group read the text, filled in the blanks on the information sheet, cut out the squares, and decided the appropriate placement of the squares on the frame. After all proposed frames were finished, a class discussion was held where the students agreed

on the correct placement of the information. Then, the students taped the squares in the correct order on their frame.

The results of these studies indicated that the framing strategy was significantly more effective for students of all ability levels than the activities suggested in the social studies teacher's guides. Framing helped the students generate a text structure/macrostructure that is critical for the comprehension of expository text.

Relevance to Whole Language and Direct Instruction

These brief vignettes of story grammar, framing, and reciprocal teaching were chosen from over forty candidates in a rapidly emerging line of research. It is crucial to note that scaffolded instruction can be integrated into a whole-language approach as well as a direct instruction approach. In fact, it borrows from both orientations. Like whole language, the stress is on comprehension. A range of responses is always acceptable (provided the students can explain or justify their choice).

There is great room for teacher flexibility. These approaches can also be viewed as an expanded, more flexible vision of direct instruction and the effective teaching research (Duffy, et al., 1987). When these instructional strategies are properly implemented, the teacher models (or thinks aloud) in a clear fashion, providing adequate practice and relevant feedback. There is a consistent concern that all students participate at an appropriate level and that they experience success.

Conclusion

Both the effective-teaching research and the whole-language movement, can be distilled into images. Whole-language proponents imagine a classroom where students are genuinely interested in all they read or have read to them. Teachers are always experimenting, and their freedom is reflected in the dynamic class atmosphere. Diverse views are tolerated, rather than the right/wrong emphasis that most associate with school.

Direct instruction presents a very different type of image. Rather than the image of authentic, intuitive instruction, where teachers consistently model for students the excitement of reading and all aspects of language, it is an image of students learning in a highly interactive situation, one where they experience consistent success, where they are provided with immediate feedback when they experience problems. The role of the teacher is, in part, to demystify the process of reading, to show the students that there are rules and principles and that, by learning the system, all can read with comprehension.

Implications of Reading Research—Continued

One of the most prominent empirical researchers, Brophy (1985), concluded that one thing he learned from decades of classroom research is how deceptive labels can be. He noted that, when observing classrooms using approaches based on a complex Vygotskian model of scaffolded instruction, he still observed a good deal of direct instruction. Similarly, in direct-instruction classrooms, Brophy observed a lot of time devoted to comprehension and higher-order analytic skills, a good deal of reading of "real" unedited literature, and a good deal of scaffolded instruction. If nothing else, empirical research has enabled us to move beyond statements of philosophy and toward a serious analysis of what teachers really do with children.

Importance of Good Literature

Each of the traditions—whole language and direct instruction—has definite contributions to make toward improving the quality of reading instruction for students with problems. The whole-language movement has reemphasized the importance of using good literature in classrooms and put extensive pressure on basal publishers to use the actual text written, rather than lifeless abridged, edited material that so often appears in basals. The movement has also stressed the importance of working on all facets of comprehension—including listening comprehension. It stresses more open-ended writing assignments, more personal writing, while savagely critiquing the plethora of "busy work" exercises on prefixes, suffixes, antonyms, contractions, and alphabetization. The movement urges that vocabulary instruction be actively linked to passage reading, rather than considered as yet one more segment of the lesson to be gotten through.

The movement has served to remind educators that the ultimate goal of reading instruction is to enable students to read with understanding. It has directed educators away from an overemphasis on easy-to-assess skills—such as prefixes, contractions, definitions of words in isolation. Finally, it has actively encouraged teachers to take charge of reading instruction and become less dependent on manuals and guides.

The Need for Systematic Instruction

The direct-instruction tradition serves as a necessary counterbalance. It provides many guidelines for how teachers can meet the needs of their students. It reminds us of the need for systematic instruction, with a great deal of practice and constant

feedback. It reminds us that reading instruction for at-risk students requires a good deal of skill. The rate at which students learn is directly dependent on how clear our explanations and examples are, how careful our instructions are, how much practice we provide, the wording of the feedback provided to students.

This research always reminds us that we must approach learning situations from the students' perspective, not the adults'. Ideas and activities that are interesting to adults may well be baffling or boring (or both) for certain students in the class, especially those who don't read well or don't possess adequate background knowledge.

The tradition provides some clear indicators of effective instruction—whether at-risk students participate at a high level, how successful they are, whether the feedback and guidance they receive is comprehensible. The more recent cognitive-strategies research provides some fascinating new directions for systematic instruction in comprehension. It reinforces the ideal that effective instruction must be systematic to truly assist at-risk students—reliance on intuition won't work.

Most recent researchers on the change process (Elmore & McLaughlin, 1988; Fullan, 1982) stress that school reform and school improvement are slow and evolutionary. The heated battles and religious wars of earlier epochs typically end in some sort of a synthesis—one that reflects the realities of classrooms, rather than the polemics (Gersten & Woodward, in press). ♦

References

- Adams, M. J. (1989). *Phonics and beginning reading instruction*. Champaign, IL: Reading Research and Education Center, University of Illinois.
- Alexander, P. A. & Judy, J. E. (1988). The interaction of domain-specific and strategic knowledge in academic performance. *Review of Educational Research*, 58(4), 375-404.
- Allington, R. L. (1983). The reading instruction provided readers of differing reading abilities. *Elementary School Journal*, 83, 548-559.
- Altwerger, B., Edelstein, C. & Flores, B. M. (1987). Whole language: What's new? *The Reading Teacher*, 41, 144-154.
- Anderson, L. M., Evertson, C. M., & Brophy, J. E. (1979). An experimental study of effective teaching in first-grade reading groups. *Elementary School Journal*, 79, 193-222.
- Armbruster, B. B., Anderson, T. H., & Ostertag, J. (1987). Does text structure/summarization instruction facilitate learning from expository text? *Reading Research Quarterly*, 22(3), 331-346.
- Becker, W. C. (1977). Teaching reading and language to the disadvantaged: What we have learned from field research. *Harvard Education Review*, 47, 518-543.
- Bereiter, C., & Engelmann, S. (1966). *Teaching disadvantaged children in the preschool*. Englewood Cliffs, NJ: Prentice Hall.

- Boyer, E. (1983). *High school: A report on secondary education in America*. New York: Harper and Row.
- Brophy, J. E. (1985). Conceptualizing instruction in reading. Symposium paper presented at AERA, Chicago, IL.
- Brophy, J. E., & Good, T. L. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), *Handbook of Research on Teaching* (pp. 376-391). New York: Macmillan.
- Bruce, B. (1984). A new point of view on children's stories. In R. C. Anderson, J. Osborn, & R. J. Tierney (Eds.), *Learning to Read in American Schools: Basal Readers and Content Texts* (pp. 153-174). Hillsdale, NJ: Lawrence Erlbaum Associates.
- California State Department of Education. *California English/language arts framework*. Sacramento, CA: Author, 1988.
- Carbo, M. (1988). Debunking the great phonics myth. *Phi Delta Kappan*, November, 226-240.
- Carnine, D. & Kinder, B. D. (1985). Teaching low-performing students to apply generative and schema strategies to narrative and expository material. *Remedial and Special Education*, 6(1), 20-30.
- Center for the Study of Reading (1988). *A Guide to Selecting Basal Reading Programs*. University of Illinois at Urbana-Champaign.
- Chall, J. S. (1967). *Learning to read: The great debate*. New York: McGraw-Hill.
- Chall, J. S. (1989). Learning to read: The great debate 20 years later—A response to 'Debunking the great phonics myth.' *Phi Delta Kappan*, March, 521 - 538.
- Christenson, S. L., Ysseldyke, J. E. & Thurlow, M. L. (1989). Critical instructional factors for students with mild handicaps: An integrative review. *Remedial and Special Education*, 10(5), 21-31.
- Collins, J. (1982). Discourse style, classroom interaction and differential treatment. *Journal of Reading Behavior*, 14(4), 429-437.
- Cullinan, B. E. (1987). Inviting readers to literature. In B. E. Cullinan (Ed.), *Children's Literature in the Reading Program* (pp. 2-14). Newark, DE: The International Reading Association.
- Delpit, L. D. (1988). The silenced dialogue: Power and pedagogy in educating other people's children. *Harvard Educational Review*, 58(3), 280-298.
- Dimino, J., Gersten, R., Carnine, D., & Blake, G. (in press). Story Grammar: An approach for promoting at risk students' comprehension of literature. *Elementary School Journal*.
- Duffy, G. G. (1983). From turn-taking to sense-making: Broadening the concept of teacher effectiveness. *Journal of Educational Research*, 76, 134-139.
- Duffy, G. G., Roehler, L. R., Sivan, E., Rackliffe, G., Book, C., Meloth, M., Vavrus, L., Wesselman, R., Putnam, J., & Bassiri, D. (1987). The effects of explaining the reasoning associated with using reading strategies. *Reading Research Quarterly*, 22, 347-368.
- Durkin, D. (1978-1979). What classroom observations reveal about reading comprehension instruction. *Reading Research Quarterly*, 14, 481-533.
- Durkin, D. (1984). Do basal manuals teach reading comprehension? In R. C. Anderson, J. Osborn, & R. J. Tierney (Eds.), *Learning to Read in American Schools: Basal Readers and Content Texts* (pp. 153-174). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Elmore, R. F., & McLaughlin, M. W. (1988). *Steady work: policy, practice, and reform of American education*. Santa Monica, CA: The Rand Corporation.
- Engelmann, S. (1975). *Your child can succeed*. New York: Simon and Schuster.
- Flesch, R. (1981). *Why Johnny still can't read: A new look at the scandal of our schools*. New York: Harper & Row.
- Fullan, M. (1982). *The meaning of educational change*. New York: Teachers College Press, Columbia University.
- Gage, N. L. (1989). The paradigm wars and their aftermath: A "historical" sketch of research on teaching since 1989. *Educational Researcher*, 18(7), 4-10.
- Garcia, E. E., Jimenez, R. T., & Pearson, P. D. (1988). *Annotated bibliography of research related to the reading of at-risk children* (Study 2.2.3.3a). Urbana: University of Illinois, Reading Research and Education Center.
- Garcia, G. E., & Pearson, P. D. (1989). *Modifying reading instruction to maximize its effectiveness for "disadvantaged" students*. Manuscript submitted for publication.
- Gersten, R., & Carnine D. (1986). Direct instruction in reading comprehension. *Educational Leadership*, 43(7), 70-78.
- Gersten, R., Carnine, D., & Williams, P. (1982). Measuring implementation of a structured educational model in an urban setting: An observational approach. *Educational Evaluation and Policy Analysis*, 4, 67-79.
- Gersten, R., Carnine, D., Zoref, L., & Cronin, D. (1986). A multifaceted study of change in seven inner city schools. *Elementary School Journal*, 86(3), 257-276.
- Gersten, R., & Woodward, J. ((in press). Rethinking the Regular Education Initiative. *Remedial and Special Education*.
- Goodlad, J. I. (1984). *A place called school*. New York, McGraw-Hill.
- Goodman, K. S. (1986). *What's whole in whole language?* Portsmouth, NH: Heineman.
- Harste, J. (1985). Becoming a nation of readers: Beyond risk. In J. Harste (ed.), *Toward practical theory: A state of practice assessment of reading comprehension instruction*. Bloomington, IN: Language Education Department, Indiana University.
- Idol, L. (1987). Group story mapping: A comprehension strategy for both skilled and unskilled readers. *Journal of Learning Disabilities*, 20(4), 196-205.
- Idol, L. (1988). Johnny can't read: Does the fault lie with the book, the teacher, or Johnny. *Remedial and Special Education*, 9(1), 8-25.
- Lloyd, J., Epstein, M. H., & Cullinan, D. (1981). Direct teaching for learning disabilities. In J. Gottlieb & S. Strichart (eds.), *Perspectives on handicapping conditions: Current research and application in learning disabilities*. Baltimore, MD: University Park Press.
- Moll, L. C., Estrada, E., Diaz, E., & Lopes, L. M. (1980). The organization of bilingual lessons: Implications for schooling. *The Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, 2(3), 53-58.
- Palincsar, A. S. (1986) The role of dialogue in providing scaffolded instruction. *Educational Psychologist*, 21(1&2), 73-98.
- Palincsar, A. S., & Brown, A. L. (1984). The reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, 1(2), 117-175.
- Pearson, P. D. & Dole, J. A. (1987). Explicit comprehension instruction: A review of research and a new conceptualization of instruction. *The Elementary School Journal*, 88(2), 151-165.
- Peterson, P. L. (1979). Direct instruction reconsidered. In P. L. Peterson & H. J. Walberg (eds.), *Research on Teaching: Concepts, Findings, and Implications*, Berkeley, CA: McCutchan Publishing Company.
- Pressley, M., Johnson, C. J., Symons, S., McGoldrick, J. A., & Kurita, J. A. (1989). Strategies that improve children's memory and comprehension of text. *The Elementary School Journal*, 90(1), 3-32.
- Rosenholtz, S. J. (1989). Workplace conditions that affect teacher quality and commitment: Implications for teacher induction programs. *The Elementary School Journal*, 89(4), 421-439.

Implications of Reading Research—Continued

- Rosenshine, B. (1989). *How do you teach a skill when you don't know all the steps?: An example from cognitive training research in reading*. Unpublished manuscript, University of Illinois.
- Rosenshine, B., & Stevens, R. (1984). Classroom instruction reading. In P. D. Pearson (ed.), *Handbook of reading research* (pp. 745-797). New York: Longman.
- Rosenshine, B., & Stevens, R. (1986). Teaching functions. In M. C. Wittrock (ed.), *Handbook of Research on Teaching* (pp. 376-391). New York: Macmillan.
- Rothman, R. (1989). NAEP board is seeking a consensus on reading. *Education Week*, IX(4), 7.
- Routman, R. (1988). *Transitions: From literature to literacy*. Portsmouth, NH: Heinemann.
- Stahl, S. L., & Miller, P. D. (1989). Whole language and language experience approaches for beginning reading: A quantitative research synthesis. *Review of Educational Research*, 59(1), 87-116.
- Stallings, J. (1975). *Follow Through program classroom observation evaluation*. Menlo Park, CA: Stanford Research Institute.
- Stallings, J. (1980). Allocated academic learning time revisited, or beyond time on task. *Educational Researcher*, 9(11), 11-16.
- Stebbins, L., St. Pierre, R. G., Proper, E. L., Anderson, R. B., & Cerva, T. R. (1977). *Education as experimentation: A planned variation model* (Vols. IVA-D). Cambridge, MA: Abt Associates.
- Stein, M. K., Leinhardt, G., & Bickel, W. (1989). Instructional issues for teaching students at risk. In R. E. Slavin, N. L. Karweit, & N. A. Madden (eds.), *Effective Programs for Students at Risk* (pp. 145-194). Boston: Allyn and Bacon.

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DIRECT INSTRUCTION: *That's Integrated Language Arts?**

by Robert Dixon

"Polemical ghosts" is Carl Bereiter's term for some of the straw men who receive frequent rhetorical lashings in educational debates. Prominent among these ghosts are the convenient but nonexistent enemies of language arts integration—the ones who are convinced that it's *good* for children to wade through quagmires of meaningless worksheets and work endlessly on preskills that don't precede anything.

I have yet to run into a real person who holds those views. But those of us who are closely associated with the development of Direct Instruction programs, and who have no more use for isolated skills instruction than anyone else, are periodically startled to find someone pointing a finger at us, in their attempt to make these ghosts materialize.

Considering that Direct Instruction developed in reaction *against* isolated skills instruction fully as much as any other integrated language arts approach, we have to ask ourselves why anyone would cast us in such a role.

The reason, I think, is that the most serious and thoughtful approaches to language arts integration are those that affect a program's underlying structure more than its surface details. Understandably, a program's deep structure becomes apparent only upon close, detailed, and time-consuming analysis.

On the other hand, approaches that merely mix many different activities superficially can always give a conspicuous *impression* of integration simply because everything they do lies on the surface. Whether any of these surface traits produces the desired outcomes is another matter entirely.

A History of the Indiscriminate Mix

We can trace the tendency toward superficial integration of skills all the way back to Noah Webster's famous "Blue-backed Speller." Indeed, a short historical review of spelling instruction in this country may help to clarify my point, since the course of spelling instruction is in many ways representative of the course that most language arts programs have taken over the last two centuries.

Noah Webster published his *Grammatical Institute of the English Language* in the late 1700s. Perhaps it was the first "integrated" language arts program,

since it included three parts: a spelling book, a grammar, and a reader.

Components of language arts were mixed not only across the *Institute*, but also within the speller itself. Consisting primarily of word lists for students to memorize, the speller also included a pronunciation guide for each word as well as a few rules that superficially helped with spelling. Finally, Webster included a brief moral lesson with each word list. The following is an example from the second edition:

*If you are poor, labor will procure you food and clothing—
if you are rich it will strengthen the body, invigorate the
mind, and keep you from vice. Every man therefore should
be busy in some employment.*

While these moral lessons might loosely be considered "reading," they did not contain words from the spelling list. Indeed, Webster apparently pulled the list words from his hat.

Whatever the weaknesses of Webster's speller may have been, they did not seem to inhibit its sales, which eventually reached an estimated 100 million copies. Throughout the nineteenth century, spellers changed very little until, at the beginning of our own century, the little moral exhortations were generally dropped.

Soon thereafter, spelling instruction itself was virtually dropped from the curriculum of most American schools—perhaps in an overreaction to the ineffectiveness of nineteenth century speller. For the first twenty years or so of our century, spelling remained in general disrepute among educators as a poor, distant relative of reading.

By the 1930s, however, educators renewed their interest in spelling, and much of the research cited today in support of various aspects of spelling instruction was conducted during this period—research that concerned itself almost entirely with variations on memorizing word list. Some changes in spelling programs were implemented at this time: the selection of words for study became based on frequency of use list, and the packaging of books became more attractive. In addition, the common practice of the "Friday spelling test" developed at this time.

Another feeble attempt to relate spelling meaningfully to other areas of the language arts was the introduction of weekly words in a "interesting story" rather than in a word list. This practice may have had some positive effect on reading, but it led to no improvement in spelling performance—quite possi-

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bly because it actually reduced the time that students spent on spelling. By the fifties, the "interesting story" had disappeared.

The thirties, forties, and fifties saw much debate over the minutiae of spelling instruction, including such matters as the pros and cons of different memorization techniques and the utility of various sensory motor procedures. Increasingly colorful art work brightened the pages of the programs. In addition, non-spelling activities were added, ostensibly to interrelated spelling with other language arts. Perhaps these activities were equally aimed at alleviating the sheer tedium of rote memorization. But, as with the "interesting story" of an earlier era, the net effect of the additions was simply to dilute spelling instruction.

Amid all the surface change and ferment, very little of a basic nature had really changed since the days of Webster. Fundamental elements of the "Blue-backed Speller" remained: brief, often circular advice on writing, couched in the classical Latin terminology so admired by our forefathers; and independent practice on sentences that bore little relationship either to the introductory advice or to the examples. Students still memorized lists presented in weekly units, Friday tests remained the norm, and teachers continued to complain that spelling didn't transfer to writing.

The Beginnings of Modern Approaches to Language Arts

The sixties proved to be as turbulent in education as in other areas of life. Programmed learning rose and fell during this period, leaving two important legacies. First, R.F. Mager refined a methodology for stating objectives that has impacted instruction far beyond the confines of programmed learning or behavioral psychology.

Second, programmed learning yielded the first instructional methodology specified precisely enough to be empirically verified at every stage. This opened the possibility that instruction could at last be judged "good" or "bad" according to objective, rather than merely rhetorical, criteria.

The mastery learning of Bloom and Carroll developed during this time, and Robert Gagne began the development of "systematic" approaches to instructional design.

With respect to spelling, a new and more promising tack was taken by Paul Hanna at Stanford, made possible by the emergence of computer technology and the rising prestige of linguistics. In a landmark study, Hanna and his associates at Stanford dem-

onstrated that "spelling phonics" was far more regular than anyone had theretofore believed.

The Stanford researchers developed about 200 very sophisticated rules for spelling the the sound of English—rules that incorporated word and syllable position, as well as the effect of primary stress in words and syllables. They equipped a computer with these rules and then asked it to spell over 17,000 words (which were fed into it via phonemic notation).

Although Hanna and his associates freely acknowledged that their study omitted "important morphological and contextual information needed for a comprehensive mastery of American-English orthography, "the computer nevertheless spelled nearly 50% of the words correctly—a remarkable performance under the circumstances. This study had the potential to shift instructional practice away from memorization and toward generalization. Yet designers of instructional programs failed to pick up the cue, and students continued to memorize word lists for Friday tests.

Direct Instruction Brings Genuine Skills Integration

With the advent of Direct Instruction, meaningful integration of skills found its way into spelling and other areas of instruction. Like some others in the sixties, Siegfried Engelmann admired the empirical, accountable aspects of programmed learning and mastery learning. Because he also appreciated the critical role of content knowledge in the analysis of cognitive learning and recognized instructions as a form of *communication*, he based his approach to instruction upon the complex interactions among all three factors: behavior, content knowledge, and communication.

Although Engelmann's goals included far more than integration, the full integration of skills and knowledge is basic to the instructional system he developed, not only for spelling, but for all other areas of instruction. His specific methodologies are so unique, however, that many observers have difficulty even today in recognizing the degree to which integration has been achieved.

In his approach to spelling, as with other content areas, Engelmann analyzed and organized the subject in a manner that would most clearly communicate generalizations to learners. In general, this meant precisely identifying the highest orders of knowledge within the discipline so that lower levels could be learned as generalized relationships.

For example, in the *Spelling Mastery* program, students first learn phonemic generalizations, capi-

talizing upon much of the alphabetic regularity identified by Hanna and his associates. The program then switches to a strong meaning-based (morphemic) emphasis.

Engelmann's decision to teach spelling not only as it relates to sound, but also as it relates to meaning was consistent with Hanna's conclusion that mastery of half or more of English orthography is dependent upon morphological information. It is further validated by this more recent statement by Shane Templeton:

As for the spelling system of English, linguists have pointed out that it makes a great deal of sense when viewed from the perspective of how well it represents meaning rather than simply how well it represents sound.

A couple of quick examples help to illustrate how attention to meaning makes sense of English spelling. Words like *sign* are often cited as examples of how little sense English orthography makes in terms of sound. However, the role of sound in language arts is secondary to that of meaning. The *meaning of sign* is preserved in semantically related words, even though the sound changes: signal, signature, consign, design and others.

Other sets of words reflect this same "meaning preserving" principle: condemn/condemnation, for example, and autumn/autumnal. The most common example of this phenomenon is the suffix -ed, which alternates among three different sound correspondences: helped, started, longed—while preserving its semantic and syntactic properties in one spelling.

Moreover, the thousands of words students might elect to use in good writing are comprised of a relatively small number of morphemes (prefixes, bases, and suffixes). For example, the base -ceive-, derived from a Latin word for "take," occurs in numerous words such as receive, deceive, perceive, and preconceive. Students who learn to spell -ceive and to recognize it as a morphemic unit can generalize the spellings of the words of which it is crucial part. A few hundred morphemes generalized to thousands of words.

When we contrast this with the traditional graded word list approach inspired by Webster and later "refined" by others, two things become apparent. First, the traditional approach not only fails to assist students in inducing valuable generalizations such as these, but actually works to *prevent* such generalization, since words with these obvious relationships rarely even appear at the same grade level!

Second, the approach to integration taken by Webster and many of his successors begins to look crude indeed. They simply "mixed" skills in a language arts stew: a pinch of decoding, a dash of grammar, a sprinkling of usage, and several dollops

of vocabulary etymology encoding, and so forth. Often there is no necessary connection among these elements.

Engelmann's highly refined approach, on the other hand, has the effect of *integrating those components of language arts that naturally support one another*. A morphemic approach to spelling, for example, inevitably brings together semantics, vocabulary, syntax etymology, and structural analysis. And because these aspects of language arts are common to reading as well as writing, the approach can have positive effects on reading comprehension as well.

Organizing the Integration of Skills

To his system of content analysis, Engelmann added a method of organization that he called "track sequencing." This method of delivering skills to learners in parallel tracks, rather than in the familiar fixed units of instruction is easily misapprehended by the untrained observer.

In the simplest terms, Engelmann accommodated the fact that little worth knowing is learned instantly. The broad goals of integration, generalization, and transference *take time to develop*. Furthermore, he recognized what we all know intuitively: some things simply take longer to learn than others.

Therefore, skills and knowledge are *initially* taught—yes—in isolation, as this simplifies their communication to learners. But no skill *remains* in isolation. After initial instruction, the skill is gradually integrated with other skills and knowledge, transferred to an ever-widening range of application, and ultimately shifted from teacher-directed instruction to fully independent application.

In many instances, it takes weeks or months for this process to evolve fully. Because of the system's gradual and intricate unfolding, the detailed articulation of any given skill can easily escape the hasty observer. Looking at a single day's lesson, the observer sees only various segments of various parallel tracks—and nothing approaching the full picture.

These tracks follow the same pattern in all disciplines, whether the subject is spelling, reading, mathematics, or what have you. For purposes of illustration, however, the doubling rule from *Spelling Mastery* serves well. The rule, first presented in isolation, is quickly expanded to include literally hundreds of applications; it is systematically integrated into discrimination, writing, and proofreading activities; and at last it is applied independently, with no teacher prompting whatever. Perhaps most important, it is cumulatively reviewed until students achieve the high level of automaticity at which the mechanics of spelling no longer interfere with thinking during the writing process.

History Repeats Itself

Although Engelmann's goals fully correlate with those generally valued throughout education, his methods of analysis and organization have understandably eluded many observers. History simply provides little frame of reference for recognizing or evaluating such intricately detailed approaches to the desired goals.

History does, on the other hand, clearly reveal a tendency in American education to focus on the more superficial aspects of pedagogy rather than on outcomes that actually occur. This fact has been lamented by Paul R. Trafton:

In the past, American education has emphasized instructional input, assuming, at least implicitly, that if certain things are done instructionally, then the desired outcomes will occur. This is particularly true for instruction in problem solving and is inherent in much thinking about curriculum reform. Faith that an approach will result in the desired objective is often substituted for careful assessment of whether the desired outcome in fact occurs. To gain the greatest amount of learning for a reasonable amount of instruction, it is critical that more attention be given to information about the effects of instruction on student learning. That is, educators need to be more concerned about student outcomes, using such information to modify what is taught and how it is taught. This orientation can lead to more efficient and effective use of instructional time.

Most misapprehensions about Direct Instruction programs relate directly to the syndrome Trafton identifies. It is easy to notice conspicuous *input* characteristics such as the initial, isolated, introduction of skills and knowledge. Yet far more significant (and typically overlooked in a cursory examination) are the fully generalized and integrated *outcomes* of Direct Instruction. Distressingly, some educators continue to give their single-minded attention to inputs while overlooking rather straight forward student outcomes and disregarding twenty years of accumulated performance data.

In summation, we have seen that language arts integration has most often been attempted through the indiscriminate mixing of language arts components. Sometimes those components have been mixed within the confines of instructional programs (roughly 1790s-1910, 1930s-1950s, and 1970s-1980s) and sometimes mixed independently of such programs (1920s, 1960s). Currently, there is some resurgence of the notion that instructional programs, almost by definition, are in conflict with meaningful language arts integration. In California, for example,

there is some movement away from language arts instructional programs, in spite of this clear statement in the California English-Language Arts Framework:

Spelling, handwriting, grammar, and punctuation are subskills to writing and should not be taught as ends in themselves, but rather as means to helping students become competent, fluent users of language. Exercises and activities for teaching these skills may be part of the students' texts to be used as needed in the integrated program, or they may be bound separately. However, they must be aligned with the total program.

Only Bereiter's "polemical ghosts" would argue with the Framework's contention that subskills are only subskills. At the extreme, however, we find subskills treated as matters that will develop automatically out of meaningful reading and writing—in effect taking care of themselves. For this point of view there is no historical precedent, and for good reason: it's patent nonsense.

Spelling ability, for example, will no more magically emerge from meaningful writing than it did from meaningful reading in the 1930s. Consider the writing that adults do: all of it is "real" and meaningful to the adult doing the writing; yet adult poor spellers remain poor spellers. The hope (or to use Trafton's term, the faith) that subskills will emerge from meaningful outcomes is as valid as the hope of building a house before its foundation is poured and its walls framed in. The willingness of some to leave essential skills and information to the workings of blind faith is scary indeed, when the practical, productive adult lives of our students hang in the balance.

If our little stroll through the history of spelling and language arts instruction indicates anything, it is that quick and superficial fixes have never fixed much of anything. As often as I have read Aesop, the hare has yet to win the race. Steady, patient, considered progress remains our best hope of a significantly more literate future. And that is the kind of progress that Direct Instruction programs are carefully designed to deliver. ♦

References

- Hanna, P.R., Hodges, R.E. and Hanna, J.S. (1971). *Spelling: Structures and Strategies*. Boston: Houghton Mifflin Company.
- Templeton, S. (1986). Synthesis of Research on the Learning and Teaching of Spelling. *Educational Leadership*, March, 73-78.
- Trafton, Paul R. (1984). Toward More Effective, Efficient Instruction in mathematics. *The Elementary School Journal*, 84(5), 514-528.
- English Language Arts Framework for California Public Schools*. California State Department of Education, 1980.

The Textbook Adoption Process: Increasing the Importance of Pedagogical Variables*

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Almost a hundred years before the poet John Keats was born, textbook adoption folklore has it that Benjamin Harris wrote and published the first textbook, *The New England Primer*, sometime between 1687 and 1690. This textbook was a tiny, three-by-four-inch book of irregular, handcut type (Bishop & Robinson, 1916, cited in Jensen, 1931), and unlike the content of today's textbooks, Harris' "textbook" promoted the virtues of "New England puritanism, savage theology, contempt of joy and tenderness, sturdy self-reliance, and noble emphasis on right living" (Jensen, 1931, p. 2).

Today, it's well accepted that American schools are textbook dominated (Chall, 1967; Duffy & McIntyre, 1980; Farr & Tulley, 1984, 1985; Goodlad, 1976; Rosecky, 1978; Singer, 1977). As Farr, Tulley, and Rayford (1987) state, "Textbooks dominate instruction in elementary and secondary schools" (p. 59). Tyson-Bernstein (1988) also notes that "textbooks have become the *de facto* curriculum of the public schools. Numerous studies have reported the significant amounts of classroom time elementary and secondary students spend directly involved with textbook materials (Dixon, 1979; Goldstein, 1978, cited in Farr, Tulley, & Rayford, 1987; Osborn, Jones, & Stein, 1985; Tulley, 1985). In fact, the predominance of textbooks has prompted Osborn, Jones, and Stein (1985) to argue that "improving textbook programs used in American schools is an essential step toward improving American schooling" (p. 10).

Although the research on the use and effects of textbooks on students in general education is well established, the potential impact of mainstream textbooks on students with disabilities who have diverse learning and curricular needs is yet to be examined. At the present time, special education practitioners, administrators, and parents of students with disabilities appear to have no voice in the text-

book adoption process. As evidence, we contacted State Department of Education representatives from 16 states across the country to assess whether official policies exist that formally include special educators in the textbook adoption process. Of the 16 state education representatives we interviewed, not one could point to official policies that included special educators in the adoption process. Five of the states, all of which were "nonadoption states," had no policies whatsoever on textbook adoption, indicating that the authority to choose textbooks rested solely with the local school districts (Kameenui & Carnine, 1990).

Textbooks that are designed to accommodate the mythical average student (i.e., students in the middle of the bell curve) affect both students and teachers alike. Too many students do not readily benefit from these "mainstream" curricula. Only about 3 out of 20 eighth-grade-age students can successfully work the problems in an eighth-grade mathematics basal (Anrig & LaPointe, 1989). This inappropriate "fit" of materials and students causes teachers to spend inordinate amounts of time modifying textbook materials so that their students can succeed. In a recent survey of 185 teachers of students with behavioral disorders from around the country (George, George & Grosenick, 1990), nearly half (49%) of those surveyed indicated that the time available for developing and modifying curriculum for their students was "totally inadequate." Only 11% indicated that time to complete this task was sufficient. Follow-up telephone contacts with a subsample of teachers ($n=96$) revealed that teachers felt compelled to modify nearly all aspects of a disabled student's daily academic work because of the inappropriateness of the materials (George, George & Grosenick, 1990). Although the modification required for mainstream students is not as great, it is still substantial.

As Good, Grouws, and Ebmeier (1983), Gersten, Carnine, and White (1983), Kameenui and Simmons (1990), and others have pointed out, curriculum modification is not easy for teachers. In fact, Good and Grouws (1979) state that it's "the only variable that teachers, as a group, had considerable trouble in implementing" (p. 358). In addition, the lack of time for professional planning and excessive demands placed upon teachers by "paperwork" (Weiskopf, 1980) have been identified as major sources of stress

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for teachers, which have been associated with teacher attrition. Expecting teachers to “fix” textbooks is unrealistic.

A rather obvious alternative route to better curricular materials is to select them in the first place. The purpose of the present study was to investigate the extent to which a Curriculum-Analysis-Workshop (CAW) that focused on effective pedagogical variables could influence the importance attributed to those variables by the members of a textbook adoption committee.

Method

Setting

The school district had developed a strong tradition of careful textbook selection. For example, a group comprised of the Math Coordinator (a half-time teacher on assignment), the Curriculum Director, the Director of Planning and Evaluation, and the Director of Staff Development began their two-year mathematics textbook adoption process with a thorough review of the state and local mathematics requirements and guidelines, as well as all available research on effective practices in teaching math. They also determined the extent to which time allocations were adequate for math instruction and guidelines. In addition, they studied in detail the new National Council of Teachers of Mathematics Standards for mathematics and incorporated these into their K-12 Math Goal Statement. This work resulted in the development of Educational Specifications (Ed Specs) for Math K-12.

A range of questions were addressed in the Educational Specifications including:

1. “Which philosophy, approach, or combination of approaches should the district embrace?”

At the elementary level, the district recommendation was not to use a separate math manipulative program. In the absence of independent studies examining long-term effects of manipulative use, the district conducted its own research of *Math Their Way*. Their research included standardized test scores, teacher grades, and interviews of teachers and students. From 110 to 180 students were included at fourth, fifth, and sixth grades. There were no positive effects associated with the use of manipulatives. Their study revealed no difference between student scores for both students with and without formal instruction in manipulatives. A separate curriculum based on manipulatives was not adopted.

2. “Should it be expected that an entire book will be presented at any particular grade level or should

critical units/chapters be identified?”

It was determined that an entire book would not have to be completed within any particular grade level or in any specific course. Critical elements which can be adequately taught within the time constraints will be identified for each level or course. Also, time will be provided for enrichment and remediation.

Subjects

Once the Educational Specifications had been completed, a Mathematics Curriculum Committee was developed with one representative from each school. The goal of this group was to identify instructional materials, and learning objectives and to complete the K-12 curriculum to be recommended to the School Board. At the end of January, this curriculum committee received training from the Center for the Study of Mathematics Instruction at the University of Oregon. A portion of this training addressed the pedagogical variables that affect lower-performing students’ progress in mathematics.

Measures

Two measures were administered both before and after the Curriculum-Analysis-Workshop (CAW) intervention. Each CAW participant analyzed two consecutive lessons from a widely used basal mathematics program and responded to a structured interview. The purpose of these pre-post measures was to determine the extent to which the CAW intervention increased the participants’ awareness of the aspects of the mathematics curriculum that have proven to enhance learning (e.g., the pedagogical variables). To that end, the responses on all measures were classified into the three major categories: pedagogical variables, philosophical variables, and approaches/tools.

Lesson Analysis. The participants were asked to analyze a basal mathematics lesson for its overall teachability. The directions for completing this task were open-ended. That is, they were asked to comment on the adequacy, strengths and weaknesses of the lesson. No criteria were given as guidelines for their analyses.

The Lesson Analyses were scored using the *Program Evaluation Scoring Form*. This form contained the three categories (pedagogical variables, philosophical variables, and approaches/tools) and their components.

Structured Interview. The *Pre and Post Structured Interview* addressed these issues: pedagogical variables, philosophical variables, approaches/tools,

perceived competence, adequacy of current basal, accomodating low performers, and use of basals.

Results

Lesson Analysis

Before and after the Curriculum-Analysis-Workshop (CAW) intervention, participants were asked to analyze two consecutive mathematics lessons taken from the third-grade level of a popular basal mathematics program.

Pedagogical Variables. In the *Pre-Lesson Analysis*, the pedagogical variables were addressed 23 times. The *Pedagogical Variables* were addressed 39 times in the *Post-Lesson Analyses*.

The quality of the participants' analyses also improved from *Pre- to Post-Lesson Analysis*. Unlike the vague and general *Pre-Lesson Analyses* comments, their *Post-Lesson Analyses* comments were specific and critical. For example, on the *Pre-Lesson Analysis*, a participant stated that "the worksheets are not sufficient" (component: "Guided Practice"). On the post-measure, this individual specifically stated that "the lesson is about renaming, starting with zeros, but the practice page has a different type of problem."

As predicted, the pedagogical variables were the primary focus of the post analyses. Particularly noteworthy and revealing was the increased awareness of the importance of the "Rate of Introduction" and "Efficiency" components. "Rate of Introduction" looks at: (a) the number of new skills or concepts that are taught in a lesson, and (b) whether the rate is adequate for students to reach mastery before another new skill or concept is introduced. It is assumed that students who are exposed to skills and concepts in a cursory fashion will be deprived of the foundation on which increasingly difficult concepts are built. This increased awareness was evidenced by the following comments:

"Adjust the rate of introduction to allow for more practice of the objective." "New topics are introduced at a very fast pace."

"Too fast! Introducing borrowing twice with zeros is too hard."

Mathematics achievement will be minimal if pre-requisite skills are omitted or covered cursorily, and when new information is presented in a vague and inconsistent fashion. These sentiments were expressed in the following comments:

"Background knowledge is assumed. This is very dangerous."

"There is no review—just assume they can rename once—especially assume they can rename once with zero's."

"Teacher explanations are not clear."

"The students find out how to borrow twice. It is not taught or demonstrated specifically."

Philosophical Variables. There was a slight increase in the frequency with which philosophical variables were discussed from *Pre- to Post-Lesson Analyses*. Although the overall difference in these scores was modest, there was a promising change in the "Discovery Patterns/ Rules" component (pre = 0, post = 3)—is the lesson designed to lead students to discover patterns (algorithms) and rules (concepts) or are they taught explicitly? *Post-Lesson Analyses* showed that three individuals commented on this component. One participant wrote, "Beware! The phrase, 'Lead students to discover that they must regroup . . .' assumes that the students will come up with the correct steps and rules."

Approaches/Tools. There was a significant decrease (from 21 to 9) in the frequency that the *Approaches/Tools* variables were discussed from pre- to post-testing. The greatest decreases occurred in the "Cooperative Learning," "High Performers Considered," and the "Manipulatives" components. This decrease was expected because the CAW intervention focused on teaching the participants to look critically at specific design variables and not teaching methods.

Evidence of a shift in the focal point of their analysis appeared in the decrease of the frequency that the "Manipulatives" component was addressed. The decrease from 7 to 3 appears to be directly related to the "Efficiency" component in the *Pedagogical Variables* whose frequency increased 7 points from pre- to post-analysis (0 to 7 times respectively). After the intervention, the participants realized that achievement gains are not commensurate with the amount of time invested in the use of manipulatives. Rather, achievement is related to the quality of the instructional techniques that are employed. It appears that the participants are aware that there is an appropriate place for manipulates in mathematics instruction. Perhaps the intervention will assist them in determining how and when to use them effectively.

This realization is exemplified by a teacher who, in her pre-analysis, stated: "I think there needs to be more practice with manipulatives—not just one or two problems." On the post-analysis, the same individual wrote: "Not efficient in the use of manipulatives. Each child is using manipulatives for several problems."

Structured Interview

Pedagogical Variables. In the *Pre-Interview*, 3 of the 13 *Pedagogical Variables* were discussed. The teachers mentioned explicitness of the conceptual activity, review, and remediation as being important when considering a mathematics curriculum for adoption. Of these three variables, clear and explicit explanations of concepts and review were consid-

Textbook Adoption Process—Continued

ered most important. It appears that the participants valued programs where skills were reinforced in subsequent lessons within and between grade levels.

In the *Post-Interview* the comments regarding the importance of the pedagogical variables increased considerably. Six of the 13 variables were mentioned. They were appropriate and clear student directions; clear, explicit, and complete explanations of concepts; explicit, complete, and consistent explanations of algorithms; cumulative review; assessment and remediation techniques; and linkage between concepts and corresponding algorithms. Every teacher mentioned at least one *Pedagogical Variable*. The participants considered appropriate and clear directions in the students' text and cumulative review to be most important.

Philosophical Variables. The primary *Philosophical Variable* mentioned by the upper grade teachers in both the *Pre- and Post-Interview* was "Integration of problem-solving activities with real life." Four of the teachers discussed this variable in the *Pre-Interview* with three considering it most important. In the *Post-Interview*, only two teachers (grades 5 and 6) mentioned this variable. A sixth grade teacher continued to feel that the problem-solving issue was very important.

Approaches/Tools. On the *Pre-Interview*, 3 of the 6 *Approaches/Tools* variables were mentioned (i.e., manipulatives, calculators/computers, and supplementary materials). The use of manipulatives was the primary *Approaches/Tools* variable that the teachers looked for when selecting a mathematics textbook. This variable was particularly important to the primary grade teachers.

Two of the nine teachers expressed concerns about supplementary materials and considerations for high-performing students. They felt that most of the supplementary materials that accompany basal mathematics programs are merely additional drill and practice designed to review and reinforce skills. These participants wanted supplementary materials that would engage more able students in activities that tapped higher-order thinking skills.

In sum, the *Approaches/Tools* variable was cited eight times. Only the use of manipulatives was considered most important in reviewing a mathematics program for adoption. On the *Post-Interview*, using manipulatives was mentioned once. It was not considered most important.

Perceived Competence. Participants were asked how confident they felt about serving on a Mathematics Curriculum Review and Adoption Committee. In the *Pre-Interview*, 2 of the 9 teachers felt

"fine" and one felt "okay" about serving on this committee. A teacher who had served on three committees felt "very confident." Conversely, a teacher who had never served on this type of committee stated that she was "fairly confident" about assuming the role of a committee member.

Because it was their first time serving on an adoption committee, the remaining four teachers expressed some uncertainty about participating in this type of activity. However, most of them felt that they could represent their peers.

In the *Post-Interview*, all of the members of the latter group stated that they gained considerable confidence after the CAW intervention. It appears that the tenets of effective instruction and curriculum design presented in the CAW provided the participants with the knowledge and support they needed to make an informed decision regarding the quality of the mathematics programs being considered for adoption.

Adequacy of Current Basal. In this two-part question, participants were asked if they found that their current basal mathematics program was adequate and whether it needed to be modified. *Pre-Interview* responses indicated that over half of the teachers felt the program was not adequate and needed significant modification. They stated that the textbooks lacked a sufficient amount of practice problems. A teacher who felt that the program was adequate, mentioned that she had to make modifications in this area as well.

The responses on the *Post-Interview* were substantially more sophisticated and insightful. Two respondents indicated that the newly adopted text would be "more than adequate." Six felt it was "adequate," and one believed that it was not adequate. The individual who was not satisfied with the program reasoned that there was too much reading for low-performing students and an insufficient amount of independent practice and cumulative review.

Although they had not used the program, several participants discussed initial ideas for modifying it. For example, one teacher stated that she would need to use manipulatives efficiently and provide more practice when teaching the algorithms for addition and subtraction. Another teacher noted that the Textbook Adoption Committee planned to reduce the amount of content covered by lower performers and provide additional cumulative review. A third grade teacher commented that more guided practice was needed.

It is evident that in the *Post-Interview* participants were addressing the *Pedagogical Variables* which were

the focus the CAW intervention. They appeared to recognize the importance of implementing modifications that incorporate adequate practice, cumulative review, effective use of manipulative, efficiency of instructional time, and clear, explicit explanations of algorithms. They also realized that the rapid rate at which most concepts are taught impedes learning.

Accommodating Low Performers. This question asked the participant to identify specific aspects of the basal mathematics program that would enable the teacher to accommodate low-performing students. *Pre-Interview* responses referred to the series that they were using at that time. *Post-Interview* replies referred to the new series that the committee recommended for adoption.

In the *Pre-Interview*, 6 of the 9 respondents were unable to identify specific program features that would enable them to accommodate low-performers. A primary grade teacher noted that the simple, uncluttered layout of the text would be beneficial for low-performers. An intermediate level teacher said that the basic and enrichment worksheets which provided additional practice would accommodate low performers.

Significantly more *Post-Interview* responses referred to the *Pedagogical Variables* developed in the CAW. Nearly one-half of the respondents commented on the clear directions for both teachers and students. Favorable comments were made regarding the logical sequence of skills. They were particularly impressed with the preskills (i.e., "Background Knowledge") that were taught before a difficult concept was introduced. A sixth grade teacher liked the way fractions were taught and consistently reviewed throughout the program. She commented that the routine review provided the background knowledge that students would need to understand new concepts. Similarly, a fourth grade teacher stated that the well-organized program provided "daily warm-ups to review previously taught skills" which promoted the learning of new skills.

Use of Basals. In this two-part question, the participants were asked if they used the basal mathematics program on a daily basis and, if so, what percentage of the time it was used in contrast to the time that was spent on either teacher-designed activities or activities selected from other sources. All participants used the basal mathematics program on a daily basis. The percentage of time that this program was used ranged from 20% to 90%. Seven of the nine respondents used the basal at least 50% of the time. Of these seven teachers, five of them used it at least 75% of the time. One teacher who used the basal 80% of the time indicated that the supplemental material was primarily used for remediation.

Teacher Assessment. This question was asked to

ascertain the techniques teachers used to determine skill mastery and remediation. At the kindergarten level, the teacher observed and orally tested the students. Most of the first through sixth grade teachers used the tests provided by the publisher. However, their comments indicated that the validity of these assessments was questionable. For example, one teacher stated that the tests did not contain enough items to demonstrate mastery or determine error patterns. A fourth grade teacher said, "Many kids fail [the tests] even when their daily work is good." To supplement the test data, some teachers assessed students' work during chalkboard games.

For remediation, most teachers either worked with students individually or pulled out small groups of children with similar skill deficiencies. Some of the teachers used the reteaching worksheets provided by the publisher.

Selection Criteria. The participants were asked to state the criteria they applied while serving on the Textbook Adoption Committee and why those criteria were useful. All respondents valued the information from the CAW. They felt that it helped them to examine the programs analytically. That is, the information gave them a set of empirically based standards that they used to compare the components of the basal mathematics programs being considered. They stated that the criteria were especially helpful in identifying "hot spots" (i.e., skills that are difficult for students to understand, such as computations with zeros and fractions).

Some respondents commented that their entire selection process came from the workshop. One participant said, "Without the workshop, it would have been difficult." An administrator summed it up by saying that the workshop allowed them to look at hot spots, grade level criteria, and sound educational practices.

Subsequent Actions by the District

After the CAW, the Math Curriculum Committee surveyed teachers in each of their buildings to determine what areas they believed were the most important to teach and the most difficult to learn. The committee then developed criteria for the evaluation of mathematics textbooks based on the January workshop and the teachers' concerns. They evaluated six basal math series using these criteria and reviewed three "hot spots": (1) story problems, (2) place value/regrouping, and (3) fractions. (Later, story problems were deemed to be too difficult to rate as a hot spot.)

After an open discussion regarding their reactions to the criteria, and pros/cons of each program, the committee then conducted a yes/no elimination vote. This narrowed their search to four basals. After

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ranking them, one basal clearly came out above the others. An in-depth analysis of the pros and cons of that basal was then conducted. Their results were communicated to the principals and classroom teachers.

The teachers serving on the Math Curriculum Committee were given a total of five release days in which to attend the adoption workshop, develop the criteria, review the textbooks, and talk with publisher representatives. The last step of the committee's adoption process was to invite a representative from the basal publisher to discuss the committee's areas of concern. These areas of concern centered around:

- The untraditional multiplication strategy introduced in third and fourth grades.
- More focused instruction in the areas of time and money.
- How calculation problems with zeros as digits were presented.
- The need for a cumulative review booklet at each grade level.

They also requested that the publisher make available information on the field-testing of the program.

Meanwhile, the teachers on the committee continued their work by determining the objectives that needed to be covered and expanded at each grade level. During an extended summer contract, they completed the mathematics curriculum guide based on the objectives they identified.

Discussion

The findings from the interviews and lesson analyses suggest that teachers did come to place more importance on pedagogical variables in selecting math basals. In addition, the actions of the district following the CAW intervention confirm the conclusion that pedagogy continued to play a prominent role. For example, the committee requested better instruction for time and money, and for computation with problems involving zeros; the committee also asked for cumulative review material for each grade level and for information on how the basal was field-tested and revised. Finally, the committee set priorities for each grade level, so that high priority topics could be given enough time to allow for more thorough instruction.

Overall, the results are encouraging. The typical lack of attention to pedagogical variables seems to reflect the lack of appropriate inservice for teachers rather than resistance or indifference to pedagogical variables. It is conceivable that more wide-spread inservices across the country could eventually lead

to better-informed selection committees and, as a consequence, basal programs that more fully incorporate important pedagogical variables. Such a transformation could lead to better math instruction for all students. ♦

References

- Anrig, G. R., & LaPointe, A. E. (1989). What we know about what students don't know. *Educational Leadership*, 47(3), 4-9.
- Chall, J. (1967). *Learning to read: The great debate*. New York: McGraw-Hill.
- Dixon, R. (1990). Research on improving mathematics instruction for low-performing students. Eugene: University of Oregon, Center for the Study of Improving Math Instruction.
- Duffy, G., & McIntyre, L. (1980). *A qualitative analysis of how various primary grade teachers employ the structured learning component of the direct instruction model when teaching reading* (Research Series No. 80). East Lansing: Michigan State University, Institute for Research on Teaching.
- Farr, R., Tulley, M. A., & Powell, D. (1987). The evaluation and selection of basal readers. *The Elementary School Journal*, 87, 267-281.
- Farr, R., Tulley, M., Rayford, L. (1984). *Local district adoption practices in the nonadoption states*. Mimeographed. Bloomington: Indiana University.
- George, M. P., George, N. L., & Grosenick, J. K. (1990). Teachers at risk: An examination of teacher attrition in the field of behavior disorders. In J. Marr, N. George, M. George, & G. Tindal (Eds.), *The Oregon Conference Monograph* (pp. 219-224). Eugene: University of Oregon, Division of Teacher Education.
- Gersten, R., Carnine, D., & White, W. A. (1983). The pursuit of clarity: Direct instruction and applied behavior analysis. In W. Heward, T. Heron, D. Hill, & J. Trap-Porter (Eds.), *Focus on Behavior Analysis in Education* (pp. 38-57). Columbus, OH: Merrill.
- Goldstein, P. (1978). *Changing the American schoolbook*. Lexington, MA: Heath.
- Good, T. L., & Grouws, D. A. (1979). The Missouri Mathematics Effectiveness Project: An experimental study of fourth-grade classrooms. *Journal of Educational Psychology*, 71, 355-362.
- Good, T. L., Grouws, D. A., & Ebmeier, H. (1983). *Active mathematics teaching*. New York: Longman.
- Goodlad, J. (1970). *Behind the classroom door*. Worthington, OH: Charles Jones.
- Jensen, F. A. (1931). *Current procedures in selecting textbooks*. Philadelphia: Lippincott.
- Kameenui, E. J. & Carnine, D. W. (1990). A curriculum model for analyzing mathematics materials and instruction: Overview of a three-year project. In G. Tindal (Ed.), *The Oregon Conference Monograph*, (pp. 142-145). Eugene, OR: University of Oregon.
- Kameenui, E. J., and Simmons, D. C. (1990). *Designing instruction of strategies: The prevention of academic learning problems in language, reading, and mathematics*. Columbus, OH: Merrill.
- Osborn, J. H., Jones, B. F., & Stein, M. L. (1985). The case for improving textbook programs: An issue of quality. *Educational Leadership*, 42, 9-16.
- Rosecky, M. (1978). Are teachers selective when using basal guidebooks? *Reading Teacher*, 32, 381-385.
- Tulley, M. & Farr, R. (1985). The purpose of state level textbook adoption: What does the legislation reveal? *Journal of Research and Development in Education*, 18(2), 1-6.

Curriculum Adoption in California— Reading Mastery and Literature-Based Programs

Field report from a Southern California School District

The importance of a good, reliable curriculum often gets lost in teaching. I do so many things each day. I prepare lessons, grade papers, work with students individually, and figure out how to explain new and difficult ideas. Last year I suddenly became aware of what I usually take for granted.

We've been immersed in the adoption process—the state's shift to a literature-based approach in reading. I like some of the stories in the new programs, and there are several ideas that I'm sure I'll try out. But there's such a difference between the programs.

Teachers in my school who are piloting the four series tell me that many students, especially the low performers, have to stretch too far to succeed. They need more than what the program offers. What works for some students—the writing, the challenging comprehension activities—is frustrating for the child who is struggling just to read the story. I'm concerned about this and want to make sure that I can rely on the program to teach all of the kids in my class.

— a California teacher

California's New Language Arts Framework

California is now immersed a significant (as well as an historical) reform in its elementary school reading curriculum. The shift to a literature-based approach is grounded in an intensive integration of reading, writing, speaking, and listening activities that span the curriculum. Students will no longer work on fragmented activities or meaningless worksheets, and all phonics instruction should be completed in the early grades. The new approach also calls for complementary practices—discussions and writing activities that directly support what has been read.

This is a highly ambitious tact for California's public schools. Many administrators and teachers are having a difficult time adjusting to the goals of the new framework. So are many students. While teachers are expected to actively and *directly* teach learning strategies, there will be many occasions when the new, literature-based curricula isn't enough. This realization led one large Southern California school district to adopt SRA's *Reading Mastery* program for its elementary special education program.

A Comparison of Reading Curricula

Over the 1989-1990 school year, fifteen elementary

special education teachers piloted four major basal programs. One of these was SRA's *Reading Mastery* series. The others included new literature-based programs that were being piloted in the regular program. These special educators used each program for eight weeks, enough time to get a feel for the program's merits and disadvantages. They rated each program across many dimensions, most of which are listed in Table 1. In each instance, the higher scores indicated greater teacher approval of the program for that category. Ratings in *every* category strongly favored SRA's *Reading Mastery* series.

Reading Mastery was rated consistently higher on all criteria, even as much as six times higher in some areas. These pilot teachers quickly recognized the value of using *Reading Mastery* with their elementary special education students. Category by category, the program contained those variables that educational research has determined critical to instruction: appropriate placement, ongoing assessment, a logical sequence of instruction, and adaptability to individual differences.

In a separate analysis, the fifteen teachers independently rated the four programs for their *inad-*

Table 1. Evaluation of K-6 English/ Language Arts Programs: A Sample of Ratings[†]

	Reading Mastery	Other Programs*
Sequence of Instruction	12	5
Ongoing Assessment	12	3
Practice and Review	10	2
Entry Behaviors	9	2
Motivation and Interest	9	5
Behavioral Objectives	8	4
Initial Assessment and Placement	8	1
Adaptability to Individual Differences	8	3
Validation Data on Effectiveness	6	1
Total	82	26

[†] Higher scores mean a greater approval rating

* The scores listed are an average for the three other commercial reading series

equacies using the same criteria. Results are a mirror image of the data above. That is, the three other programs were consistently judged as lacking many of the variables important to effective instruction and student success. In this case, the higher the score, the less desirable the program. While the total score for *Reading Mastery* on all of the evaluation criteria was 8, the mean score for the other three programs was 78. Very few of the teachers found anything negative to say about the SRA program.

And these formal criteria do not even address a major concern among the teachers — teaching students phonics and decoding. The special education staff all recognize the need for a consistent, highly structured phonics program. Only *Reading Mastery* met this requirement adequately.

Perhaps the most interesting part of this analysis

is how teacher comments compare to the formal evaluations. In describing the literature-based programs, teachers found many good ideas in each program. Some teachers said their students liked a particular story, one teacher thought some of the overheads were especially useful, and another teacher felt that the repetition in one program was a good idea for special education students. Yet when they evaluated each program across all fourteen variables, the reactions were more pronounced. The *Reading Mastery* series was by far the most reliable program, the one these teachers felt could improve the special education student's reading ability in both decoding and comprehension. These reactions are largely responsible for this large Southern California district's adoption of *Reading Mastery* as a program to complement its literature based series. ♦

Beyond Fiction—Reading for Content

The John Fenwick School Salem, New Jersey

Elementary school students learn to read texts in two distinct ways by the sixth grade. They read for enjoyment (something we commonly associate with fictional writing) and, ultimately, they read content area material for understanding. The vast majority of commercial reading programs stress fiction through short stories and occasional poems.

Reading nonfictional material for understanding isn't really taught in most programs. It is assumed that students will abruptly acquire a taste for this kind of reading when they encounter science and social studies texts in the intermediate grades. Unfortunately, most children need to prepare for content area texts gradually. They also need considerable practice at this kind of reading. It is a style of reading that requires careful interpretation of the text, knowledge of key vocabulary, and remembering important facts and concepts that already have been taught.

The *Reading Mastery* series is unique as a commercial "basal" program because it includes these two distinct types of reading. Through fiction, students learn how to interpret feelings, how to use

context clues, and how to find the main idea. The characters are lively and unusual. Yet in many of the stories, there is an artful mix of fiction with important science and social studies concepts.

In *Reading Mastery III*, for example, third graders learn geography, common units of measurement, fundamental science rules, and some history. Science rules are simplified for the young reader ("When something moves in one direction, there is a push in the opposite direction"). Instruction in these concepts occurs across many stories. Students are asked about the rule later, in another story. By making predictions based on the rule, they learn a different way of reading ("OK, look at the picture of the girl standing in the boat. She's going to jump onto the dock. Which direction will the boat go? Why?"). They also learn how to apply this knowledge in many contexts — even ones that are largely fictional.

The story, "Herman Flies to Italy," is a good example of this application. This delightful story about a fly named Herman and his trip to Europe combines previous instruction in science ("When you go higher, the temperature gets lower") and geography. Stu-

dents use the science rule to explain why Herman is cold. They use their knowledge of geography to chart the plane's flight from Japan to Italy. This innovative approach has captured the attention of many educators, particularly those who feel that their children lack even the most basic knowledge of the world around them.

Breaking Out of a Cycle of Failure

Students at the John Fenwick School in Salem, New Jersey, know very little of the world other than poverty. What was once an industrial town with food processing plants and glass manufacturing is now a city in decline, with a distressingly high unemployment level. Per pupil expenditures for education are among the lowest in the state. Eighty percent of the 600 students in this K-4 school are black, and an equal percentage receive a free lunch each day.

When Esther Lee became principal of the school four years ago, many of her teachers were convinced that their students couldn't learn to read. The children were simply too poor and language deprived. For most students, their failure followed a grim pattern. By May, 80 percent of the students were not at the recommended level for passing on to the next grade level. Consequently, the majority of students simply were "recycled" through the same books the following September.

At the end of her first year as principal, Lee decided that dramatic changes were necessary. Lee introduced *Reading Mastery I* as a pilot program in the first grade,

and students well surpassed their performance from previous years. This success led to more Direct Instruction programs.

Reading Mastery was extended through the third grade. *Distar Language I, II, and III* were implemented as a K-2 program. Teachers were shown how to teach the Language programs to the class as a whole so that more time could be devoted to other academics, especially teaching background knowledge. Lee has always been a firm believer in background knowledge instruction, knowing that increasing a student's general knowledge of the world makes a big difference in later schooling. To this end, Lee and her staff have developed an integrated program of science and social studies throughout the K-4 program.

Reading for Content: An Integrated Approach

Beginning in kindergarten, teachers coordinate Weekly Readers with a variety of hands-on activities. Local field trips begin in grade one. As first graders are learning to decode and comprehend through *Reading Mastery I*, they start reading science and social studies in the spring. At first, the reading is modest. Over the next two years, however, practice in reading nonfiction material increases.

Teachers use the same kind of teaching techniques as they find in the Direct Instruction programs. Before reading a science chapter, they preteach selected words that are difficult or essential to the story. By the time students reach *Reading Mastery III*, much of the science and social studies comes directly from the

Textbook Passage excerpted from *Reading Mastery III*, Lesson 58

The captain told the passengers. "Look at your map and you can follow our flight today. We left Japan and we're flying straight to Italy. We will fly over China and Turkey on our way to Italy. The flight to Italy is six thousand miles and should take 16 hours."

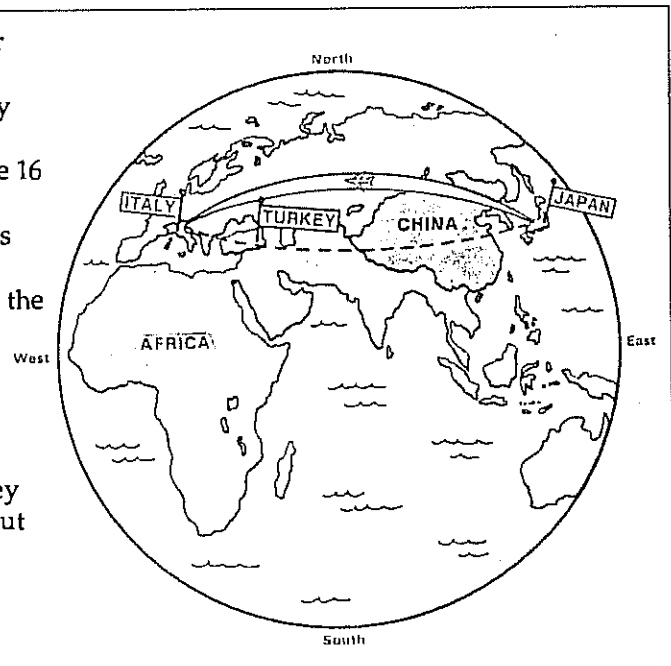
Touch Japan on the map and follow the plane's flight.

The country of Italy is very small compared to the United States. Italy is smaller than the state of Alaska. Italy is small, but a lot of people live in Italy—60 million people live there.

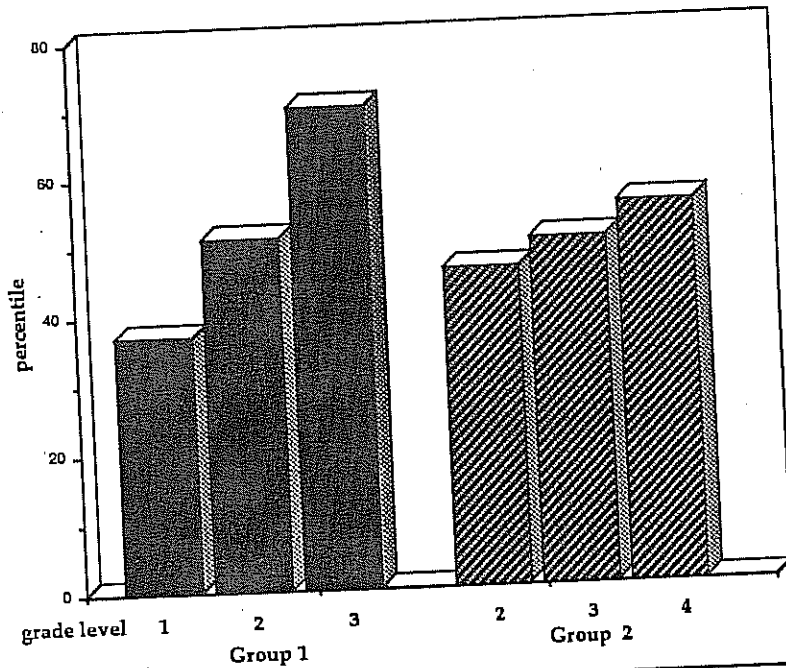
Italy is shaped something like a boot.

The jumbo jet circled several times and then landed. The passengers cheered and waved as they got off the plane. Nobody cheered for Herman. But Herman had just traveled farther than any other insect that ever lived.

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Stanford Achievement Test - Reading
1987 - 1989



much greater confidence, and they read more than fictional stories. Appreciative teachers at middle school have noticed the positive change as well. The chart shows the academic growth for first and second graders once Fenwick began using *Reading Mastery* in 1987. The chart shows the improvement for two groups of students as they move across three grade levels. Students in Group 1 started *Reading Mastery* in the first grade, while those in Group 2 began the program in second grade. Stanford Achievement Test data show clear, consistent growth reading for the two cohorts of students across three grade levels.

John Fenwick teachers also have taken advantage of ongoing inservice in Direct Instruction. Esther Lee has worked to find financial support for all teachers who wish to attend the summer Atlantic Coast Association for Direct Instruction Conference held each July in Rehobeth Beach, Delaware. Four years ago, few

SRA program. Stories, such as "Herman Flies to Italy," are exactly the kind of integrated readings that Lee wanted for her students.

Teachers at the John Fenwick School see a marked change from four years ago. Students read with

teachers pursued inservice courses outside school time. With the changes in reading ability at John Fenwick, Lee estimates, "over 60 percent of our staff have been to additional DI training. They get a lot out of it, and they learn from other participants." ♦

Pre-Correction: A Strategy for Managing Predicatable Problem Behaviors

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Educators are well aware of the need to manage student behavior problems that occur in school settings. Indeed, on an increasing basis, teachers in

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both special and regular education are being asked to assume greater responsibility for teaching students who display severe behavior problems. As a result, teachers need to become acquainted with more systematic and precise approaches to managing the inappropriate behavior displayed by their students. The purpose of this article is to present one such approach called "pre-correction."

Viewing Classroom Management as Instruction

A basic assumption underpinning the use of pre-correction procedures is that both appropriate and inappropriate behaviors are learned. As such, specified behaviors can be taught, utilizing the same instructional principles that are basic to the effective

teaching of academic areas (Colvin & Sugai, 1988; Engelmann & Carnine, 1982; Wolery, Bailey, & Sugai, 1988). This involves the systematic manipulation of teacher input (antecedents) and feedback (consequences) which, in turn, results in student learning or growth toward some desired objective. Pre-correction procedures, combined with systematic correction procedures, parallel the techniques used for the effective teaching of academic areas.

When students make an academic error, effective teachers implement a systematic error correction procedure such as "model, lead, and test" (Engelmann & Carnine, 1982). If students are likely to repeat the error on a frequent or predictable basis, teachers may use pre-correction procedures such as pre-arranging their next instructional interaction so students are less likely to repeat the error, and more likely to give the correct response. For example, if students are making errors pronouncing the "e" sound in a certain passage, the teacher may make a short list of common words containing the "e" sound and instruct them to practice sounding out these words before the passage is read. These same academic procedures of correction and pre-correction can be used to manage predictable social behavior problems.

The Distinction Between Correction and Pre-Correction

To understand the parallel between the management of academic errors and social behavior problems, distinctions must be made between correction and pre-correction procedures. Consider the following examples which involve procedures for managing academic errors and social behavior problems respectively.

Example A:

Hilda is working on a subtraction problem on the chalkboard. The teacher notices that she makes an error in borrowing in the hundreds column. The teacher asks Hilda to wait a second and then says, "Look, Hilda the number nine is bigger than the number from which you are subtracting. So you need to borrow one from here." The teacher puts a similar problem on the board and says, "Now let me see you do this one." Hilda completes the problem correctly and the teacher praises her.

Example B:

Dominic enters the classroom after recess, talking very loudly, and pushing other students. The teacher reminds him to enter the classroom quietly and to keep his hands to himself. He is then asked to go back to the door and come in quietly. Dominic complies and comes in quietly. The teacher thanks him for following directions.

In both examples, the teachers used a correction

procedure involving three steps. They provided:

1. Feedback that an error or unacceptable behavior had occurred.
2. Information on how to obtain a correct response or exhibit acceptable behavior.
3. An opportunity for students to repeat the task.

Correction procedures can be used to remediate academic-error areas and social behavior problems. However, if the same kinds of errors persist, we are likely to see different management procedures for academic errors and social behavior problems. Consider the following examples:

Repeated Academic Errors

Hilda continues to work on subtraction problems and the teacher notices that she is still making the same error. The teacher concludes that Hilda needs more direct teaching and practice on borrowing, beginning with easier examples, to enable her to learn the rule. The teacher explains the rule to Hilda, works through two examples with her, and then has her work through one example by herself as the teacher watches. Hilda obtains a correct response. The teacher asks her to complete the remainder of the examples. The teacher introduces the original harder examples which Hilda completes successfully.

Repeated Social Behavior Problems

The next day Dominic enters the classroom after recess just as noisily as the day before. The teacher gives him a mild reprimand, "Dominic, I asked you yesterday to come in quietly and to keep your hands to yourself. Stand at the door and wait for me." Dominic mutters a name under his breath. The teacher says that his comment was disrespectful and that he will miss some recess. Dominic says that he doesn't care. The teacher begins the lesson leaving him at the door until he quiets down. He starts to make faces at the students and the teacher makes out an office referral for his disruptive behavior.

There were similarities in correction procedures used to address a single error and a social behavior problem. However, there were clear differences in the way repeated academic errors were managed compared to repeated social behavior problems. Essentially, the teacher used pre-correction procedures to manage the errors Hilda made in the subtraction problems. That is, the teacher reviewed the rule for borrowing by re-teaching and providing practice, adjusted the difficulty level of the problems, instructed Hilda to practice borrowing with the easier examples, and then introduced the original examples. In effect, the teacher manipulated the context or the examples to enable Hilda to learn the skill of borrowing and to prevent her from making continued errors.

In the case of Dominic, the teacher continued to

Managing Predictable Behaviors—Continued

use *correction* procedures. Each time Dominic exhibited a behavior problem the teacher delivered a consequence. The continued use of correction procedures did not lead to the occurrence of appropriate behavior. The opposite occurred. Dominic's behaviors escalated, resulting in an office referral.

After repeated instances of math error, Hilda's teacher changed from using a *reactive* correction procedure to a *proactive*, pre-correction strategy. That is, the teacher responded by providing an instructional sequence *before* Hilda attempted the original problem. In contrast, Dominic's teacher continued to use *reactive* procedures. The teacher's response occurred *after* the student behavior. It was also evident in the two examples that the student outcomes were very different. Hilda learned the appropriate skills of borrowing and was able to complete the target problems. Dominic did not learn to exhibit the appropriate entry behavior to the classroom and displayed more serious behavior. In summary, Hilda's teacher used a combination of correction and pre-correction procedures. Dominic's teacher, on the other hand, used correction procedures alone by increasing the number and level of consequences for the series of unacceptable behaviors by Dominic.

Dominic's teacher, however, could employ pre-correction procedures to address his frequent noisy entries to the classroom. For example, the teacher could remind him of the rule just before he goes out to recess. Or, the teacher could meet him at the door and signal "Shhh" before he takes a step into the classroom. Also, the teacher could have an entry task on the chalkboard such as a math puzzle to enable the students to settle down quickly. In each of these strategies, the teacher is responding *before* Dominic has had the opportunity to exhibit noisy entry behavior.

In this example, the *proactive* nature of pre-correction is illustrated, that is, the teacher's response occurs *before* the student behavior (Gettinger, 1988). Essentially, the antecedents for the behavior are manipulated, and appropriate behaviors are prompted to increase the likelihood that appropriate behavior will occur and decrease the likelihood that inappropriate behavior will occur (Brophy, 1983; Swick, 1985).

In essence, correction procedures are *consequent manipulations* designed to signal and stop inappropriate behavior *after* it occurs, while pre-correction procedures are *antecedent manipulations* designed to *prevent* the occurrence of predictable inappropriate behavior and facilitate the occurrence of more appro-

priate replacement behavior (Colvin & Sugai, 1989). A comparison of correction and pre-correction procedures is summarized in Figure 1.

Figure 1. A Comparison Between Correction and Pre-Correction Procedures.

Correction	Pre-Correction
1. Reactive	Proactive
2. Consequences are manipulated	Antecedents are manipulated
3. May lead to negative teacher-student interactions	May lead to positive teacher-student interactions
4. Focuses on inappropriate behavior	focuses on appropriate behavior
5. May lead to escalating behavior	May lead to appropriate behavior
6. Focuses on immediate events	Focuses on future events

Pre-Correction Strategies for Managing Predictable Behavior Problems

Pre-correction procedures are used in conjunction with correction procedures to change and manage anticipated problem behaviors. The use of these two procedures involves seven basic steps:

1. Identifying the context and the predictable behavior.
2. Specifying expected behaviors.
3. Systematically modifying the context.
4. Conducting behavior rehearsals.
5. Providing strong reinforcement for expected behaviors.
6. Prompting expected behaviors.
7. Monitoring the plan.

Step 1: Identifying the Context and the Predictable Behavior

To identify the context for the predictable behavior, we delineate those immediate environmental variables that are functionally related to the student's behavior. The task is to identify those contextual variables that set the occasion for particular behaviors. In other words, we attempt to hypothesize a functional relationship between the target context and the problem behavior. The context can be any event, task condition, circumstance, or other setting or antecedent stimulus which occasions the behavior on some reliable basis.

There are both formal and informal methods for identifying these contexts. Informal methods include simple observation and recall. For example, a teacher notices that students are very noisy when they come in from P.E. and that it takes some time to settle them down. The target context is designated as the transition from recess to class. The target behavior is the noisy entry behavior of the students and the initial off-task behavior. A functional relationship between the transition from recess and the noisy off-task behavior is hypothesized. For example, noisy off-task behavior is predicted from students immediately following recess. In another example, a teacher observes that when sitting next to each other, Sally provokes and distracts Harry. The target context here is Harry and Sally sitting next to each other, and the target behavior is the provocations and distractions exhibited by Sally. The hypothesis is that Sally provokes and distracts Harry when they are sitting together. Information about possible functional relationships also can be collected through other informal methods, such as discussions with teachers, parents, and support personnel; self reports or peer reports; and survey of archival records.

Formal methods are designed to obtain more precise information through direct and systematic observations. One common method is to conduct a functional analysis (Sugai & Colvin, 1989). The observer notes each student's behavior and records the corresponding antecedent and consequent events. For example, a teacher reports that Tommy is disruptive in class. In one class, the following scenario occurred:

The teacher was using a class discussion procedure to answer the first three questions from the history book. The teacher then said, "I want you to finish the remainder of the questions by yourself. So everyone do numbers 4 through 20 in your workbook, please." After a few seconds, Tommy looked around and made a face at Mary. Mary grinned. Tommy then called out, "Boy, this is boring. Why can't we do something that is fun?" Some of the students laughed and the teacher said, "Tommy, you need to finish the

assignment. Start to work now." Tommy rolls his eyes and Mary rolls her eyes.

This classroom episode can readily be recorded in the form of a functional analysis which will make it easier to identify the antecedents that may occasion the disruptive behavior and consequences that may reinforce this behavior.

In Figure 2, a three-column layout is used for this analysis.

When we analyze these events, we look for possible functional relationships between the target context and the problem behaviors. In this case, it is noted that Tommy began to exhibit off-task behavior in the history class when independent work was introduced following discussion in the history class. We hypothesize that some aspect of the independent work context set the occasion for Tommy to exhibit off-task behavior, that is, there is a functional relationship between Tommy's off-task behavior and the conditions associated with independent work. We recommend that additional observations be conducted to identify the specific aspects of independent work (e.g., directions, difficulty of subject content, proximity of certain peers, lack of teacher assistance) that are functionally related to Tommy's off-task behavior, and confirm whether or not similar off-task behavior occurs predictably in the context of all independent work requirements.

In summary, the target context and corresponding target behavior can be identified through both formal and informal observations. Functional analyses procedures provide more precise information about possible functional relationships.

Step 2: Specifying Expected Behaviors

While the student may exhibit inappropriate behavior in a particular context, expected replacement behaviors for that context also need to be clearly specified (Brophy, 1983; Sprick, 1985; White & Haring, 1980). For example, if Tommy talks out during independent work to get help, the expected behavior could be to raise his hand if he needs help. If a

Figure 2. Functional Analysis of Tommy's Classroom Disruptions.

Antecedents	Behaviors (Target Student)	Consequences
Teacher: "Finish the questions."	Tommy: Looks around makes face at Mary	Mary: Grins
c	Tommy: "That is boring."	Students: Laugh Teacher: "You need to finish work now."
c	Tommy: Rolls his eyes	Mary: Rolls her eyes

Note: The letter "c" denotes previous consequence function as the next antecedent. For example, the first consequence is recorded as "Mary grins." The antecedent for Tommy's next behavior is listed as "c" representing "Mary grins."

Managing Predictable Behaviors—Continued

student interrupts other students during class discussion, the expected behavior might be to wait before speaking or wait until someone is finished talking before speaking. There are a number of recommended guidelines in selecting expected behaviors:

1. Describe the expected behavior in *observable* terms; for example, "Raise your hand if you wish to speak."
2. Select behaviors that are *incompatible* with the problem behavior (Engelmann & Colvin, 1983; Evans & Meyer, 1985; Horner & Billingsley, 1988); for example, "Wait your turn instead of interrupting."
3. Select expected behaviors that are *functional replacements* for the problem behavior (Carr & Durand, 1985); for example, the student gets teacher attention by staying on task. Staying on task replaces talking out.

Step 3: Modifying the Context

The purpose of modifying the context is to increase the likelihood that the expected behaviors will occur and decrease the likelihood that the problem behaviors will be displayed. Numerous aspects of the context can be modified, for example, instructions, explanations, tasks, activities, scheduling, seating arrangements, reminders, and curriculum. However, modification of the context should be based on the findings from the functional analysis and be as normal and unobtrusive as possible. For example, given that the students are likely to be noisy and hard to settle down after recess, the teacher may meet the students at the door or have an entry task, such as completion of a small math puzzle projected on the overhead. Given that Sally disrupts Harry, the context could be modified by changing the seating arrangements.

If substantial changes have to be made in the context, a systematic plan should be developed to move from the restricted or modified context towards the original or normal context. For example, if Billy disrupts large-group instruction, it may be necessary to have Billy participate in small-group work on a very restricted basis (e.g., either with one or two other students and for shorter periods of time). The level of restriction should be reduced as Billy begins to exhibit the expected behaviors for group work. The numbers in the group and the length of group instruction could be increased gradually.

Step 4: Conducting Behavior Rehearsals

Once the student enters the target context, it is highly likely inappropriate behavior will occur. Behavior rehearsals are conducted to offset the likelihood of this occurrence. Essentially, behavior rehearsals involve presenting the students with some kind of training on the expected behaviors *just before the student enters the target context* (Engelmann & Colvin, 1983). The training may take several forms, such as, having the student recall, read, or demonstrate the expected behaviors to the teacher. In some cases, it may be necessary to have the student learn and practice the expected behaviors beforehand (Becker, Engelmann, & Thomas, 1975). For example, given that Tommy interrupts other students in group instruction, his teacher catches Tommy just before the group begins and says, "Now remember, Tommy, please wait until someone is finished before you speak. Please tell me what you will do if you wish to speak." The student is required to repeat the expectation for speaking in the group. The assumption is that the student is more likely to remember the expected behaviors if given training just before entering the target context.

Step 5: Providing Strong Reinforcement for Expected Behaviors

The major objective is to teach expected behaviors in a specific context. However, students frequently have a long-standing history of exhibiting inappropriate behavior in these contexts. Consequently, it may be difficult to replace an established behavior pattern with a new pattern. In other words, the new behavior will be in competition with the old inappropriate behavior which has been reinforced intermittently over time (Horner & Billingsley, 1988). Therefore, to replace this behavior, strong reinforcement must be provided for the expected or replacement behaviors. While the kind of reinforcer used will vary from situation to situation, it is imperative that strong reinforcers be used frequently in the beginning to offset the reinforcement history that maintained the inappropriate behavior.

Step 6: Prompting Expected Behaviors

Although a behavior rehearsal may have been conducted, the student(s) still may exhibit the problem behaviors in the target context. The reason is that this training was conducted outside the context. Consequently, once the student enters the target context, the conditioned inappropriate behaviors are likely to

occur. Teachers need to be sensitive to the idea that students will find it difficult to exhibit expected behaviors, especially in new contexts or where competing responses have been successful in the past. Thus, students will need more assistance to exhibit the expected behaviors. The following procedures are designed to provide additional assistance.

1. Acknowledge students immediately when they exhibit the expected behaviors. For example, the teacher may say, "I appreciate the way you are putting up your hands."
2. Provide a reminder of expected behaviors as part of a direction in a lesson. For example, in a geography class on capital cities, the teacher might say, "Could someone raise his or her hand and tell me the capital of Australia?" Students who comply should be given immediate and strong acknowledgment.
3. Should the predictable inappropriate behaviors occur, use the following correction procedures:
 - a. *First occurrence.* Ignore the first occurrence of the target behaviors. If Billy talks out, the

teacher should continue with instruction and attend to other students who are on task or exhibiting expected behaviors.

- b. *Second occurrence.* Provide a two-part signal for the second occurrence of the target behavior. For example, if Billy talks out again (which is likely!), the teacher: (a) puts a finger to his or her lips to signal not to talk out, and (b) raises his or her hand to model the expected behavior. The teacher gives strong and immediate reinforcement when he puts up his hand.
- c. *Third occurrence.* Present a warning for the third occurrence of the target behavior. The warning is presented as a decision or choice to the student. For example, the teacher says, "Billy, you need to put up your hand to speak or you will be give a time-out" (or some penalty). It is imperative to provide choices which are familiar to the student and to follow through on the choice the student makes.

Figure 3. Example of a Completed Pre-Correction Checklist and Plan

Pre-Correction Checklist and Plan	
Teacher: Sarah Endow	Student: John Smith Date: 10/17/90
___ 1. Context	Students coming in from recess and entering classroom.
Predictable Behavior	Students shouting, laughing and pushing; down time before they comply with directions
___ 2. Expected Behavior	Enter the room quietly, go to their desks, begin task, keep hands to self.
___ 3. Context Modification	Teacher meets students at door, has them wait and then go to desk to begin entry tasks
___ 4. Behavior Rehearsal	Teacher reminds students just before recess of expected behaviors
___ 5. Strong Reinforcement	The students were told that if they cooperate with the requests, they will have additional breaks and five minutes extra recess.
___ 6. Prompts	The teacher gives signals at the door to be quiet and points to the activity on board. The teacher says "hush" to the noisy students and praises the students on task.
___ 7. Monitoring Plan	The teacher uses a watch to measure how long it is before all students are on task and counts how many students are on task immediately.

Managing Predictable Behaviors—Continued

Step 7: Monitoring the Plan

A complete monitoring plan consists of at least two parts. The first is a checklist and plan that contains a description of what the teacher will do at each of the seven steps of the pre-correction procedure. When first learning or implementing the seven-step procedure, teachers may find it useful to use the checklist as a prompt or script. Later, an assistant or second teacher can use the checklist to see that the plan is being implemented accurately, consistently and completely. A sample of a pre-correction checklist filled out is shown in Figure 3.

The second part of the monitoring plan is a record of the student's performance (i.e., expected and problem behavior). Data should be collected on a regular basis to determine if the procedure is effective, that is, the problem behavior is decreasing and the expected behavior is increasing.

Application of the Pre-Correction Procedures

The complete seven-step, pre-correction procedure is illustrated in an example involving students who come in from recess shouting, laughing, and pushing one another. Every day the teacher spends a considerable amount of time trying to get them settled so she can hand out materials and give directions for math class. It often takes 5-7 minutes to gain control. After conducting a series of functional analyses, the teacher developed the pre-correction plan shown in Figure 3 above.

Conclusion

Teachers are faced with having to manage a greater variety of problem behaviors on an increasing basis in the classroom. Reactive management procedures, such as simple corrections only, address problem behavior after it has occurred. These techniques focus on the manipulation of consequent events. However, in the case of effective instruction in academic areas, teachers manipulate both antecedents and consequences with an emphasis on manipulating antecedents. Based on the assumption that appropriate academic and social behaviors are learned and need to be taught, strategies for managing social behavior should involve manipulation of both antecedents and consequences with a similar emphasis on manipulating antecedents. Pre-correction procedures involve the manipulation of antecedents so

that established inappropriate behavior can be replaced by new, more appropriate behavior. This approach of utilizing a systematic combination of pre-correction and correction strategies can enable teachers to be more proactive and effective in managing problem behaviors in the classroom. ♦

References

- Becker, W. C., Engelmann, S., & Thomas, D. R. (1975). *Teaching 1: Classroom management*. Chicago, IL: Science Research Associates.
- Brophy, J. E. (1983). Classroom organization and management. *Elementary School Journal*, 83, 265-285.
- Carr, E. G., & Durand, V. M. (1985). Reducing behavior problems through functional communication training. *Journal of Applied Behavior Analysis*, 18, 111-126.
- Colvin, G. T., & Sugai, G. M. (1988). Proactive strategies for managing social behavior problems: An instructional approach. *Education and Treatment of Children*, 11, 341-348.
- Colvin, G. T., & Sugai, G. M. (1989). *Managing escalated behavior*. Eugene, OR: Behavior Associates.
- Engelmann, S., & Carnine, D. (1982). *Theory of instruction: Principles and applications*. New York: Irvington Press. (To be reprinted by the Association for Direct Instruction in 1991.)
- Engelmann, S., & Colvin, G. (1983). *Generalized Compliance Training*. Austin, TX: Pro-Ed.
- Evans, I. M., & Meyer, L. H. (1985). *An educative approach to behavior problems: A practical decision model for interventions with severely handicapped learners*. Baltimore, MD: Paul H. Brookes.
- Gettinger, M. (1988). Methods of proactive classroom management. *School Psychology Review*, 17, 227-242.
- Horner, R. H., & Billingsley, F. F. (1988). The effect of competing behavior on the generalization and maintenance of adaptive behavior in applied settings. In R. H. Horner, G. Dunlap, & R. L. Koegel (Eds.), *Generalization and maintenance: Lifestyle changes in applied settings* (pp. 197-220). Baltimore, MD: Paul H. Brookes.
- Sprick, R. (1985). *Discipline in the classroom: A problem by problem survival guide*. West Nyack, NY: The Center of Applied Research in Education.
- Sugai, G., & Colvin, G. (1989). *Environmental explanations of behavior: Conducting a functional analysis*. Eugene, OR: Behavior Associates.
- Swick, K. L. (1985). *A proactive approach to discipline*. Washington, DC: National Education Association.
- White, O. R., & Haring, N. G. (1980). *Exceptional teaching* (2nd Ed.). Columbus, OH: Merrill.
- Wolery, M. R., Bailey, D. P., & Sugai, G. M. (1989). *Effective teaching: Principles and procedures of applied behavior analysis with exceptional children*. Boston, MA: Allyn and Bacon.

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Kathy Jungjohann, Bernie Kelly, Jean Osborn, Jerry Silbert, Marilyn Sprick,
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The Association for Direct Instruction is pleased to announce the 17th Annual Eugene Direct Instruction Conference. The Conference will be held at the Eugene Hilton Hotel and Conference Center, in downtown Eugene. In response to feedback from trainers and past participants we have modified the content and schedule for 1991.

New features include:

- Daily keynote speakers offering a new perspective on Direct Instruction and how it interfaces with other trends in education;
- Modified afternoon sessions allowing participants a wider selection of sessions;
- Many new sessions, including training on the new Language Arts series, *Reasoning and Writing* and the new math series, *Connecting Math Concepts*.

We hope that you will be able to make the Conference the highlight of your summer and join with other professionals from around the country in furthering your skills and knowledge of effective instructional technologies.

Sessions are designed for teachers, aides, supervisors, and administrators whose goal is to promote excellence in all facets of education. There are optional 1, 2 or 3 quarter unit credits available from the University of Oregon Summer Session.

As a participant, the city of Eugene is literally at your doorstep. Next door to the Hilton is the Hult Center for the Performing Arts, a world class performance hall. Within walking distance of the Conference site are scores of restaurants and stores catering to a variety of tastes. Eugene's setting makes the Conference a rewarding professional experience as well as a relaxing vacation for you and your family. To help renew old friendships or make new acquaintances, a picnic has been planned for Monday evening.

SESSION INFORMATION

There are 5 Keynote presentations and 36 sessions offered during the 5-day Conference. Participants may attend all 5 Keynotes and up to 4 sessions. Sessions are either training or informational. Training sessions focus on specific teaching behaviors. These sessions cover program rationale and provide task practice. Informational sessions provide the detailed information needed to implement successful techniques or to

understand the topic.

Sessions are scheduled in the morning and afternoon. For their morning sessions, participants choose one "A" session (M-Th) and one "E" session (Fri). For their afternoon sessions, participants can choose either one "B" session or a combination of one "C" session (M-Tu) plus one "D" session (W-Th). A summarized schedule is located on page 44 for further reference.

CONFERENCE REGISTRATION INFORMATION

Where-When: Monday, August 5, 8:30 am through noon Friday, August 9, 1991, at the Eugene Hilton Hotel and Conference Center, 66 East 6th Avenue, in downtown Eugene, Oregon.

How to Register: Fill out the registration form on page 15. Enclose with check or Institutional purchase order for the proper fee. Send completed form and fee to the Association for Direct Instruction. Registration received before July 7 guarantees space in preferred sessions. Any session with less than 20 participants may be cancelled. A confirmation receipt will be sent to all registrations received by July 12. **THIS FORM COVERS CONFERENCE REGISTRATION ONLY. THIS DOES NOT CONSTITUTE PRE-REGISTRATION FOR COLLEGE CREDIT OR ROOM RESERVATION.**

Fees and Discounts: The conference registration fee is \$175.00. Association members receive a 20% discount (\$35.00 off). New members are eligible for the 20% discount when membership application and appropriate fees accompany registration form. (See page 14 for ADI Membership form.) Groups of 5 to 9 participants receive a 10% discount. Groups of 10-19 receive a 20% discount. For groups of 20 or more, call for a quotation. Ask for Bryan Wickman at (503) 485-1293. The member and group discounts cannot be used together. Choose the discount that will benefit you the most. The fee does not include lodging or meals with the exception of the picnic, and coffee each morning. All training materials are included in the fee.

Travel: The Association for Direct Instruction has selected Red Baron Travel as the Travel Agency for the Eugene Conference. On United Airlines flights, Red Baron can offer a 5% discount on the lowest applicable fare or 40% off coach fare, whichever is lower. Call Red Baron at 1-800-289-4222. You need to tell

them you are attending the ADI Conference in order to get the discounted airfares.

Lodging: The special conference rate at the Eugene Hilton is \$59.00 per day for a single, \$69.00 double (\$34.50 per person) plus tax. The Hilton has sold out for the past 8 years, so early reservations are recommended. You may contact the Hilton at (503) 342-2000 or 1-800-937-6660. You need to tell them you are with the ADI group in order to receive the discounted room rates. There are a number of other hotels in the area. We will send a sheet of other lodging options to pre-registrants. **DO NOT SEND ANY ROOM RESERVATION MONEY TO THE ASSOCIATION.**

College Credit: An optional 1, 2 or 3 hours of college credit through the University of Oregon Summer Session is available at an additional cost of \$40.00 per quarter unit. Grading is Pass/No Pass. The credit is listed as: Special Education 408 (or 508), Direct Instruction. Transcripts will be available in early October. Fee payment and registration will take place at the conference. **DO NOT SEND ANY COLLEGE CREDIT MONEY TO THE ASSOCIATION.**

Refunds and Cancellations: A 100% refund will be issued if a written request is post-marked by July 21, 1991. After that an 80% refund will be given. A written request must be received in our office before any refunds will be made.

Optional Events: Monday there will be a get-acquainted picnic at Skinners Butte Park. A meal for you and one guest is included in the registration fee. Wednesday at 4:00pm the ADI annual membership meeting will be held. We will present the 1991 ADI Awards for Excellence in Education. Afterward there will be a reception, providing an opportunity for conversation with trainers and other conference participants.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<p>Keynotes Monday-Thursday, 8:30-9:15</p> <p>Zig Engelmann <i>Teaching is a Game of Skill, Not Chance</i></p> <p>Jean Osborn <i>Beginning Reading Instruction... What We Know from Research</i></p>	<p>Linda Youngmayr <i>Filling the wHOLE in Whole Language: Using DI in California</i></p>	<p>Barbara Bateman <i>Haven't we Met Before?—Trends in Education</i></p>	<p>E Sessions Friday, 8:30-11:15</p> <p>Study Skills • Vonnie DiCecco Overview of Effective Spelling Instruction • Bob Dixon Supplemental and Transitional Activities • Kathy Jungjohann Options for At-Risk and Special Needs Students • Jane Carter Overview of Direct Instruction Research • Wes Becker Literature in Reading Mastery • Linda Youngmayr Overview of Advanced Teaching Techniques • Ann Glang Curriculum-Based Measurement • Tracey Hall Direct Instruction and Higher-Order Thinking Skills • Doug Carnine Research on Comprehension and Whole Language • Russell Gersten Seminar for Administrators—Issues in Instruction • Geoff Colvin</p>	<p>Closing Friday, 11:30-12:00</p> <p>Zig Engelmann <i>Facts and Fantasy about Direct Instruction</i></p>
<p>A Sessions Monday-Thursday, 9:30-12:00</p> <p>Connecting Math Concepts • Bernie Kelly Reasoning and Writing A-C • Karen Davis & Jerry Silbert Teaching the Corrective Reader • Gary Johnson Reading Mastery I, II & Fast-Cycle • Phyllis Haddox Reading Mastery III-VI • Marcy Stein Solutions to Classroom Discipline Problems • Randy Sprick Adapting Content Area Curriculum for Low-Performers • Marilyn Sprick Introduction to Direct Instruction Techniques • Ann Glang & Tracey Hall</p>	<p>B Sessions Monday-Thursday, 1:30-4:00</p> <p>Reading Mastery I, II & Fast-Cycle • Phyllis Haddox Direct Instruction Supervision & Training Strategies • Tracey Hall Advanced & Corrective Arithmetic • Bernie Kelly Reading Mastery III-VI • Gary Johnson Managing Severe Behavior Disorders and Serious Emotional Disturbances • Geoff Colvin</p>	<p>D Sessions Wednesday-Thursday, 1:30-4:00</p> <p>Teaching Facts & Fact Systems • Gary Davis Reasoning and Writing A & B • Karen Davis Direct Instruction & Whole Language • Linda Youngmayr Contemporary Instructional Research • Russell Gersten Theory of Direct Instruction Design • Bob Dixon Overview of New Direct Instruction Basals for Arithmetic and Language • Zig Engelmann</p>	<p>D Sessions Wednesday-Tuesday, 1:30-4:00</p> <p>Expressive Writing I & II • Jerry Silbert DISTAR Language I • Linda Youngmayr Overview of New Direct Instruction Basals for Arithmetic & Language • Zig Engelmann Effective Spelling Instruction • Bob Dixon Advanced Teaching Techniques • Ann Glang Research on Beginning Reading Instruction: Implications for Practice • Jean Osborn</p>	<p>Optional Evening Events Monday, 4:00pm Get-Acquainted Picnic</p> <p>Wednesday, 4:00pm Annual ADI Member Meeting & Social Hour</p>

To Register for the Eugene Conference use this form
or write to ADI for a complete brochure.

CONFERENCE REGISTRATION FORM

Please fill out the registration form completely and mail to ADI.

Make checks payable (U.S. funds only) to **Association for Direct Instruction**.

Because space is limited, early registration is recommended. Use an address where you will receive your mail up until the conference.

Name (as you would like it to appear on your name tag) _____

Home Address _____

City _____ State _____ Zip _____

Phone _____

Agency Affiliation _____ Position _____

I would like to register for the following (list one "A" and one "E". Choose one "B" or one "C" plus one "D"):

"A" _____

"B" _____ or "C" _____

"D" _____

"E" _____

I am an Association for Direct Instruction member: Yes No

I will attend the picnic: Yes No

Please return this form with your check or District Purchase Order to ADI

For office use only: Fee _____ Check _____ PO# _____ By: _____ Part _____

ADI presents. . .

BASIC SKILLS IN TEACHING— A VIDEO TRAINING PROGRAM FOR EFFECTIVE TEACHING SKILLS

These 3 lessons show skilled teachers demonstrating effective teaching techniques with a variety of students and a range of instructional materials. The lessons are designed for individual use by novices to Direct Instruction, but can be used by supervisors or teacher trainers to illustrate effective use of Direct Instruction techniques. Video examples demonstrate correct and incorrect use of teaching skills with small groups of low-performing students. In the workbook that accompanies the video presentations, the viewer has the opportunity to practice the skills presented. Skills are reviewed cumulatively throughout the lessons.

Overview of Lessons:

Lesson 1, Pacing and Signaling (25 minutes)

- Presenting scripted material with enthusiasm
- Moving quickly through lessons to cover more material and maintain student attention
- Using signals to increase teacher-student interaction rate

Lesson 2, Motivation (30 minutes)

- Setting clear behavioral and academic expectations
- Providing consistent feedback
- Using group management systems to increase student motivation

Lesson 3, Corrections (30 minutes)

- Correcting errors immediately and effectively
- Using a standardized correction procedure to remediate student errors, regardless of instructional materials

Cost: \$75.00 per lesson (includes trainer guide and 1 workbook)
\$200.00 for set of three lessons
\$10.00 per extra workbook (contains all 3 lessons)

To order, send your check or purchase order to:

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Eugene, OR. 97440
(503) 485-1293

Plan Now to Attend...

The 6th Annual Salt Lake City Direct Instruction Institute

July 29-31, 1991

Salt Lake City Hilton Hotel

New Sessions • Keynote Speakers

College Credit Available • Special Room Rates

The Association for Direct Instruction is pleased to announce the 6th Annual Salt Lake City Direct Instruction Institute. The Institute will be held at the Salt Lake City Hilton Hotel, in downtown Salt Lake City. In response to feedback from trainers and past participants we have modified the content and schedule for 1991.

New features include:

- Daily keynote speakers offering a new perspective on Direct Instruction and how it interfaces with other trends in education;
- Many new sessions, including training on the new Language Arts series, *Reasoning and Writing* and the new math series, *Connecting Math Concepts*.

If you haven't attend the Salt Lake City Institute before, please join us this year. If you have attended before, please come back. We are looking forward to an exciting Institute.

Monday	Tuesday	Wednesday
Keynotes (8:30-9:15, Daily)		
Siegfried Engelmann <i>Direct Instruction Fact and Fantasy</i>	Linda Youngmayr <i>Filling the WHOLE in Whole Language</i>	Geoff Colvin <i>Management as an Instructional Tool</i>
A Sessions (Monday & Tuesday, 9:30-12:00; Wednesday, 9:30-11:00)		
NEW Advanced Teaching Techniques • Susie Wayne Supervision of Staff • Linda Youngmayr		
NEW Managing Behavior Disorders and Serious Emotional Disturbances • Geoff Colvin		
NEW Curriculum Based Measurement and Direct Instruction • Tracey Hall		
NEW Reasoning and Writing A-C • Karen Davis Advanced and Corrective Arithmetic • Bernie Kelly		
B Sessions (Monday & Tuesday, 1:30-4:00; Wednesday, 11:15-1:00)		
Teaching the Corrective Reader • Susie Wayne Reading I & II • Linda Youngmayr		
NEW Creating Schoolwide Behavior Management Systems • Geoff Colvin		
NEW Design of Instruction • Tracey Hall		
NEW Connecting Math Concepts • Bernie Kelly Reading III-VI • Pepe Quintero		

New

Reasoning and Writing, Levels A, B, C (1991 Edition)

- Grades K-3
- New language arts program grounds writing skills in thinking skills.
- Teaches the most important and generalizable foundation strategies for literacy.
- Strong applications orientation makes all activities meaningful.

Lays the foundations on which all literacy depends

Reasoning and Writing builds the foundations of literacy from the ground up. Starting at the rewriting stage (End of kindergarten or in grade 1), the program builds language and reasoning skills that will prepare students not only for writing, but also for reading—and every area of school endeavor. By grade 3, students are fully engaged in writing process and capable of revising their own work for clarity and correctness.

Track sequencing develops skills continuously

Within each lesson, students work on skills and concepts drawn from three to five different tracks. As they work on new material in small, easy steps, they continue to apply skills and concepts learned earlier. Reinforcement is continuous.

Fully field tested and verified for effectiveness

Reasoning and Writing is a classroom-developed program in which every activity has been proven successful. Level A is available now. Levels B and C will become available by summer of 1991. Research continues on grades 4, 5 and 6—to be available soon!

Reasoning and Writing, Level A

Develops higher order thinking skills through predictable stories

Level A develops higher-order thinking skills and puts them to work in stories that are read to the children. The stories are the motivational core of the program. Predictable structures and characters with memorable traits draw learners in. Students learn how to recognize story problems, anticipate characters' reactions, predict outcomes, and recognize story grammars. Verbal creativity takes both oral and written forms. Students tell their own alternative endings for stories. They act out plays that place their favorite characters in new situations. They begin the process of writing sentences and stories.

Skills include classification, sequence recognition, and important verbal-reasoning categories such as *true/false*, *if/then*, *all/some/none*, and others. All concepts are integrated into the stories. The program leads children toward verbal inventiveness, the capacity for logical deduction, cooperation in group writing and acting projects, an understanding of story patterns, and ability to focus on a story patterns, and ability to focus on a story's central issues.

Reasoning and Writing, Level B

Expands reasoning skills and adds new language concepts

Level B expands the strategies taught in Level A. Again, thinking skills introduced through simple activities are developed and used in stories—stories that blend laughter with learning. Students learn to construct and complete deductions and use facts or clues to eliminate possibilities. Besides generalized thinking skills, students also begin to attend to basic precepts of clear writing, such as the need for clear pronoun referents.

Reasoning and Writing, Level C

Puts increased emphasis on written outcomes

Level C introduces more extensive writing activities. All activities are structured to assure students of success. At the same time, students develop important grammatical understandings and learn conventions of correctness. They learn to express themselves in complete sentences, for example, and to recognize subjects, predicates, and pronouns.

Writing is presented as an ongoing process that includes drafting, revising, and editing for clarity—always keeping the reader and the reader's questions in mind. By the end of level C, students are writing relatively long story completions, and are revising their own work.

Authors

Siegfried Engelmann, Karen Lou Seitz Davis, Ann Arbogast, and Jerry Silbert.

Components

Complete set of teacher materials for Level A contains 1 Teacher's guide and 1 Teacher Presentation Book. Set of Teacher Materials for Levels B and C contains 1 Teacher's Guide, 1 Teacher Presentation Book, and a separate Answer Book. Student Materials for Levels A and B include two student Workbooks. Student Materials for Level C include 1 Workbook and a Textbook.

Reasoning and Writing, Level A (Grades K-1)

		Net Price
7-15702	Level A Reasoning and Writing Complete Set of Teacher Materials	\$90.00
7-15707	Additional Level A Teacher's Guide	12.00
7-15704	Level A Student Workbook 1, pkg. of 5	20.50
7-15706	Level A Student Workbook 2, pkg. of 5	20.50

Reasoning and Writing, Level B (Grade 2—Available late summer 1991)

7-15712	Level B Reasoning and Writing Complete Set of Teacher Materials	90.00
7-15717	Additional Level B Teacher's Guide	12.00
7-15714	Level B Student Workbook 1, pkg. of 5	20.50
7-15716	Level B Student Workbook 2, pkg. of 5	20.50

Reasoning and Writing, Level C (Grade 3—Available late summer 1991)

7-15727	Level C Reasoning and Writing Complete Set of Teacher Materials	95.00
7-15726	Additional Level C Teacher's Guide	12.00
7-15724	Level C Student Workbook, pkg. of 5	23.75
7-15725	Level C Student Textbook	14.50



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To order, call 1-800-621-0476.

New

Connecting Math Concepts, Levels A, B, C (1991 Edition)

- Grades 1-3
- Emphasizes the connections among math concepts
- Organizes lessons by related strands, not single topics
- Gives both guided and independent practice
- Places strong emphasis on problem solving

Important benefits for students and teachers

Connecting Math Concepts is designed to ensure that *all* students (not just some) will learn higher-order thinking and mathematics. What's more, they will apply what they know in a variety of meaningful activities as they learn to think and problem solve.

Develops important relationships among math concepts

The program establishes relationships among concepts and their application. Connecting Math Concepts introduces concepts at a reasonable rate and provides systematic, continuous review so that students learn, remember, and integrate the concepts they are taught.

Lots of ideas for applications extensions, and manipulatives

Suggested Application/Extension Activities are provided in every lesson. These include problem-solving activities, games, and cooperative learning activities. The program incorporates suggestions for manipulative materials to introduce, reinforce, or expand the concepts taught.

Tested materials that really work

Connecting Math Concepts was field-tested in a variety of classrooms across the United States. The authors carefully reviewed teacher critiques and student performance on every lesson and based extensive revisions on this feedback.

Connecting Math Concepts, Level A

Level A builds on the aspect of mathematics that is most familiar to children—counting. The lessons extend counting to a small set of facts and uses these to teach the basics of mathematics: addition and subtraction, their relationship to each other, and the concepts of more and less, place value, problem solving, estimation, money, and measurement.

Connecting Math Concepts, Level B

Level B teaches place value, relationships and facts of addition and subtraction, mental arithmetic, problem solving, measurement, money, column addition and column subtraction, geometry, multiplication, and data collection and analysis.

Connecting Math Concepts, Level C

In Level C, students learn a variety of problem-solving strategies for situations involving classification, comparison, addition and subtraction actions, multiplication and division, and even multistep problems. Key relationships are developed, such as multiplication and division, division and fractions, multiplication and addition, area and volume. Instruction covers place value, geometry, estimation, calculator use, measurement, money, and statistics. Concepts and computation skills are also taught for borrowing, multiplication, division, and fractions.

Authors

Siegfried Engelmann and Douglas Carnine

Components

Complete Set of Teacher Materials for each level contains 1 Teacher's Guide, 1 Teacher Presentation Book, and a separate Answer Key. Student Materials for Levels A and B consist of 2 Student Workbooks. Student Materials for Level C consist of 1 Student Workbook and 1 Student Textbook. Student materials must be ordered separately.

Connecting Math Concepts, Level A

Grade 1 (Available late summer 1991)		Net Price
7-15628	Level A Connecting Math Concepts Complete Set of Teacher Materials	\$150.00
7-15623	Level A Student Workbook 1 (pkg. 5)	24.75
7-15625	Level A Student Workbook 2 (pkg. 5)	24.75
7-15626	Additional Level A Teacher Guide	12.00

Connecting Math Concepts, Level B

Grade 2 (Available late summer 1991)		
7-15638	Level B Connecting Math Concepts Complete Set of Teacher Materials	150.00
7-15633	Level B Student Workbook 1 (pkg. 5)	24.75
7-15635	Level B Student Workbook 2 (pkg. 5)	24.75
7-15636	Additional Level B Teacher Guide	12.00

Connecting Math Concepts, Level C

Grade 3 (Available late summer 1991)		
7-15657	Level C Connecting Math Concepts Complete Set of Teacher Materials	150.00
7-15653	Level C Student Workbook (pkg. 5)	24.75
7-15654	Level C Student Text	15.00
7-15655	Additional Level C Teacher Guide	12.00



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**SEE PAGES 42-45 FOR
INFORMATION ON
THE 17TH EUGENE DIRECT
INSTRUCTION CONFERENCE**