

Direct Instruction

NEWS

ADI Effective School Practices

SARA G. TARVER, Editor, University of Wisconsin, Madison

What Is “Direct Instruction”?

This frequently asked question sounds like a simple question that calls for a simple response. However, those who know Direct Instruction well know that the answer is far from simple. Numerous writers have attempted to define Direct Instruction in such a way that practitioners, laypersons, and scholars can grasp the essence of this phenomenally successful approach to teaching. Unfortunately, most attempts (including my own attempts) have fallen short. It appears that Direct Instruction may be too multifaceted and too complex to be described adequately in a few short paragraphs, an article, a chapter in a book, or perhaps even a book.

We may never write a single definition that communicates clearly the essence of Direct Instruction to laypersons, teachers, politicians, researchers, and scholars, but we must continue to attempt to craft definitions that have meaning for one or more of those groups of persons. Toward that goal, we publish in this issue Owen Engelmann’s “Layman’s Definition of Direct Instruction.” We also invite our readers to submit their own definitions so that we can publish some from time to time and discuss their relevance.

The theoretical underpinnings of Direct Instruction were described by Zig Engelmann and Doug Carnine in *Theory of Instruction: Principles and Applications* (1991). In a more recent book, *Inferred Functions of Performance and Learning* (2004), Engelmann and Don Steely analyze learning and performance and discuss implications

for formal instruction (see the preface of this book in this issue of *DI News*; see *Journal of Direct Instruction*, Summer, 2004 for a review of the book). Scholars and researchers who seek to understand Direct Instruction at the deepest levels will find no more useful resources than these two books. Neither of the books is an easy read and neither fits the bill for a definition of Direct Instruction for the layperson or the teacher in the classroom. For those persons, layman definitions such as that written by Owen Engelmann are likely to be more useful.

Martin Kozloff’s article in this issue can also help teachers and laypersons to understand what Direct Instruction *IS* and what it *IS NOT*. He delineates myths that have prevailed to perpetuate misunderstandings of Direct Instruction and discusses data that refute those myths.

Applications of Direct Instruction are provided in this issue in Zig’s response to a question about what to do to help a student who stutters when reading, Roberta Wilson’s account of success when using *Reading Mastery* with two students at Humboldt Park School in Milwaukee, and Don Crawford’s article about how to improve fluency to achieve automaticity in decoding.

Steadfast rejection of the notion that student’s are to blame for their academic failure is a unique feature of Direct Instruction. Kerry Hempenstall, in this issue, explores the question “Who Is to Blame When Children Fail to Learn?” In so doing,

he presents statistics which justify the growing concern over academic failure in this country and a wealth of empirical research which shows that the widespread failure reflects flaws in instructional systems and the ways they are implemented in our schools, not flaws of the students. He provides over 100 references to support his position.

A major flaw in the instructional approaches that have prevailed in this country is their reliance on “discovery learning” rather than direct, explicit
continued on page 3

SPRING 2005, Volume 5, Number 1

In this issue

- 3 A View From Askance
- 5 ADI News
- 7 A Layman’s Description of Direct Instruction
- 7 Zig Engelmann’s Response About a Student Who Stutters
- 8 Futures Filled With Hope
- 10 Improving Fluency to Achieve Automaticity in Decoding
- 12 Martin’s Musings
- 16 Who Is to Blame?
- 31 Instruction Versus Exploration in Science Learning
- 33 Preface to *Inferred Functions of Performance and Learning*
- 34 Introduction to *Managing the Cycle of Acting-Out Behavior in the Classroom*

Direct Instruction News

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Contribute to DI News:

DI News provides practitioners, ADI members, the DI community, and those new to DI, with stories of successful implementations of DI, reports of ADI awards, tips regarding the effective delivery of DI, articles focused on particular types of instruction, reprints of articles on timely topics, and position papers that address current issues. *The News'* focus is to provide newsworthy events that help us reach the goals of teaching children more effectively and efficiently and communicating that a powerful technology for teaching exists but is not being utilized in most American schools. Readers are invited to contribute personal accounts of success as well as relevant topics deemed useful to the DI community. General areas of submission follow:

From the field: Submit letters describing your thrills and frustrations, problems and successes, and so on. A number of experts are available who may be able to offer helpful solutions and recommendations to persons seeking advice.

News: Report news of interest to ADI's members.

Success stories: Send your stories about successful instruction. These can be short, anecdotal pieces.

Perspectives: Submit critiques and perspective essays about a theme of current interest, such as: school restructuring, the ungraded classroom, cooperative learning, site-based management, learning styles, heterogeneous grouping, Regular Ed Initiative and the law, and so on.

Book notes: Review a book of interest to members.

New products: Descriptions of new products that are available are welcome. Send the description with a sample of the product or a research report validating its effectiveness. Space will be given only to products that have been field-tested and empirically validated.

Tips for teachers: Practical, short products that a teacher can copy and use immediately. This might be advice for solving a specific but pervasive problem, a data-keeping form, a single format that would successfully teach something meaningful and impress teachers with the effectiveness and cleverness of Direct Instruction.

Submission Format: Send an electronic copy with a hard copy of the manuscript. Indicate the name of the word-processing program you use. Save drawings and figures in separate files. Include an address and email address for each author.

Illustrations and Figures: Please send drawings or figures in a camera-ready form, even though you may also include them in electronic form.

Completed manuscripts should be sent to:

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Acknowledgement of receipt of the manuscript will be sent by email. Articles are initially screened by the editors for placement in the correct ADI publication. If appropriate, the article will be sent out for review by peers in the field. These reviewers may recommend acceptance as is, revision without further review, revision with a subsequent review, or rejection. The author is usually notified about the status of the article within a 6- to 8-week period. If the article is published, the author will receive five complimentary copies of the issue in which his or her article appears.

Direct Instruction...continued from page 1

teaching. In the teaching of science, for example, it has been assumed widely that student's discover scientific principles by exploring on their own. That assumption is called into question by Rachel Adelson's article, "Instruction

Versus Exploration in Science Learning," in which she explains that David Klahr's controlled studies demonstrate that direct instruction works and generalizes better (reprinted in this issue).

In this issue, we also call to the attention of our readers a recent book

by Geoff Colvin (*Managing the Cycle of Acting-Out Behavior in the Classroom*, 2004). We realize fully that effective instruction and management of classroom behaviors go hand in hand. Geoff's book can help teachers manage behaviors and thereby maximize the effectiveness of their instruction. *ADI*

BOB DIXON



Blinding Me With Science (Or Lack Thereof)

I'm making a substantial inference here. I haven't read standards for science the way I've read, for example, reading and language arts and math standards. I haven't examined science texts and programs. I assume—but don't know for a fact—that the constructivists have done for science about the same thing they've done for other content areas: ruined it.

One could say that it is either bold or just plain arrogant to infer much about science education with practically no hard information. One reason it isn't so outlandish to assume that science instruction isn't very good under the constructivists is that it wasn't particularly good *before* them, and they don't have a reputation for improving instruction. (As far as I can tell, the constructivists—at least the radical ones—don't *believe* in anything one might think of as instruction.)

What set me off on a critique of science education? The news. It seems possible that a journalism major doesn't necessarily require any content expertise in fields such as philosophy, science, mathematics, language, and so on. I'm thinking particularly of any of the many news announcements about

the latest studies reported in the *New England Journal of Medicine*. The headlines often go like this: Scientists have learned that drinking wine reduces your chances of heart attack by 67%. Something like that.

The scanty details that follow demonstrate that the study in question reported a *correlation* between drinking wine and heart attacks. A *correlation*. That's all. I won't say "just" a correlation because correlations can be important. But one apparent weakness of science education is that few people seem concerned about the difference between a correlation and a *cause*. The difference is enormous. You could drive a Spruce Goose between the two with plenty of room to spare for a B-52 on either side.

I'm absolutely certain that no legitimate medical scientist—such as those whose studies are designed so well that they make it in the *New England Journal of Medicine*—is the least bit confused over cause and effect versus correlation. A scientist who discovers a correlation between drinking wine and reducing heart disease is one of the last people who would conclude that, therefore,

drinking wine *causes* a reduction in heart disease.

Here is an example of when correlational studies can be vitally important. According to my neighbor, an internal medicine specialist who keeps up with dozens of journals the way many people follow reality TV, tells me that as yet, no one has done a study showing that smoking causes lung cancer, or any other disease, for that matter. A cause and effect study is an extremely difficult thing to pull off in the biological sciences. We say in the vernacular that smoking causes cancer, but the reality is that there is a preponderance of correlational evidence that smoking causes cancer. When we can't prove a cause and effect (which is more difficult in psychological studies than biological), we often have to settle for a preponderance of evidence.

What does this have to do with science education? First, either the media *knows* that these studies are correlations, but they lie intentionally to make money, or they simply believe that drinking wine *causes* a decrease in heart disease. Moreover, it appears that perhaps millions of people change their behavior on the basis of reports such as the wine and heart disease report.

Skipping around and digressing, as I'm prone to do, how do you feel about phosphorus? When I was in college, you could add a little water to many detergents and make a paste. Then you could put your hands, for example, into the paste and make "invisible"

hand prints on the walls. Under black light, the hand prints would light up bright green. Using this technique, and with a little imagination and a lot of strength, you could put footprints all over the ceiling. But 35 years or so ago, some people were fighting to have phosphorus removed from detergents, based on correlational data indicating that it might be causing problems in the ecosystems of lakes.

It took quite a long time to get the manufacturers of detergents to remove the phosphorus, or reduce its levels to practically nothing. The makers of dishwasher detergents lobbied hard and ended up with the largest amounts of phosphorus in their product, for the simple reason that dishwashing detergent couldn't clean dishes without phosphorus.

Skipping to the more recent past, I read an article about state biologists adding phosphorus—straight—to local lakes because of all the damage caused to their ecosystems when detergents stopped using phosphorus. There is no certainty that the recent problems were *caused* by low levels of phosphorus, but reintroducing it has reduced many of those problems, so as a practical matter, that practice continues. In the meantime, if your clothes are really dirty and you want them to be really clean, add some dishwashing detergent to your laundry.

Cause and effect versus correlation. Failing to make the distinction and to recognize the implications of both is just one indicator of a possible weakness in science instruction. Another sign is treating plausibility as if it were fact. The moment we are able to come up with a plausible explanation is the moment when we have a tendency to stop searching for other explanations and convert the plausible to the factual. This happens to everyone, all the time, in everyday life. I think. If someone says, "You did that because ..." you could be the victim of a plausible explanation. We come up with some explanation for

behavior, then act as if the explanation were in fact true. Someone is found unconscious in bed. There is an empty bottle of tranquilizers next to the bed. According to the label, the person had just recently purchased those tranquilizers. Ergo, an overdose of tranquilizers. That's not just a plausible inference, but a very plausible one.

Turns out the person had transferred the new tranquilizers into an older bottle that still had some pills in it. The person was unconscious because of a mild stroke. A really good ER doctor is going to look beyond one plausible explanation before doing a

Therefore, the way we explain things to young children (especially) has to be as unambiguous as possible.

stomach pump, which wouldn't do much to help the stroke victim, who needs instead some powerful anticoagulant drugs. Plausible (but factually wrong) explanations can be downright dangerous. The plots of more than a few murder mysteries revolve around the plausibility of explanations that are factually wrong.

All this relates much more directly to DI in general than one might think at first blush. The naive learner receives some sensory information—let's say he sees some object. A teacher says something about that object. The student comes up with a plausible idea about the label for the object: plausible, and perhaps very plausible, based on what the teacher said, but wrong, nonetheless. The teacher tends to misjudge this student as one with a disability, while the student wallows in frustration. Nothing unusual is going on here. The child seeks an explanation, and when a

plausible one occurs to him, he accepts it as factual.

Almost everything you and I do day-to-day is ambiguous. Five different people can easily develop five different but very plausible explanations of one thing or another we do, and all five can be wrong. A well educated adult (at least in science, classical rhetoric, and philosophy—including especially logic) is a critical thinker when he or she holds plausible explanations tentatively and as *only* plausible, and then searches for other plausible explanations. The explanation that best predicts future behavior is the one that has the best chance of being factual.

Young children obviously haven't had the opportunity to study John Stuart Mill, to develop a facility with formal logic, to learn all one must know to be a genuine critical thinker. Therefore, the way we explain things to young children (especially) has to be as unambiguous as possible. The child's natural tendency is to make a plausible inference. The responsibility of instruction is to present information in such a way that the student immediately begins to formulate a plausible explanation that is, at the same time, the correct explanation.

A poor education in science and scientific method and logic and classical rhetoric makes society at large susceptible to no end of poor decisions and scams. Besides scientists themselves, the group of people who really need a strong education in these areas are those who aspire to teach children, whether directly without a textbook, or in connection with a book and other materials. In short, as much as any other field, really, education needs a basis in science. The critical thinking that many educators enjoy touting is impossible for them to achieve themselves—never mind the children—without a strong background at least in the philosophy of science and logic. *ADI*

ADI News

This fall and winter have been very busy for the staff at the Association. No sooner had the fall series of Peer Mentoring sessions been completed than we launched into a survey of the membership of the organization. The purpose of the survey was to gather information to assist in developing some long-term plans for the organization. Out of the 750 surveys sent out, 264 responded by the deadline. Thank you very much to those timely souls.

The survey results were very interesting. We had assumed that most all ADI members are teachers. In fact, from our sampling we found that while 48% identify themselves as teachers, 40% identify themselves as consultants or teacher trainers. Administrators make up about 16% of the group, and 13% belong in the higher education category. Yes, I know the numbers add up to over 100%, as respondents were allowed to select all that apply.

We were pleased to see how strongly our membership seems to value the *DI News* and *Journal of Direct Instruction*. Eighty-seven percent of respondents either read the publications thoroughly or at least skim each issue. Also the written comments pointed to the fact that the publications are of great use to those in the field. Specifically valuable are research pieces, program reviews, and teaching hints. As always, we rely on our membership to help shape the contents of our publications and urge you to keep sending your stories and data for publication.

The rest of the information gathered shows that people find the organization for DI professionals useful, and that the membership has some great ideas for how we can be of even more service

to them. Look to this column for announcements of what these new services and directions will be.

Conference News

ADI has finalized plans for the conferences this summer. Brochures are available for the Southeast Conference in Orlando (June 21–24), Mountain States Conference in Colorado Springs (July 11–13), the National DI Conference in Eugene (July 24–28), the Midwest Conference in Chicago (August 3–5), and the Atlantic Coast Conference in Baltimore (August 8–10). If you haven't gotten a brochure for these events go online to www.adihome.org and download one, or call the office and have one sent via mail, email, or fax. We have some great new sessions at each of these events so new as well as past attendees should be able to find something of interest.

Looking to the Fall the Carmel Conference will run October 20 and 21. We also will be offering a regional training conference at Fairmont Hot Springs in Montana October 28 and 29.

Carolyn Schneider and Debbie Jackson will be conducting three Peer Mentoring sessions in October and November. Dates and locations are not yet firm and will be posted on the website as soon as they are finalized.

As always, the staff of ADI is interested in knowing how well we serve you as well as how we can do more to make your work in the field more successful. Please know we are available to help you help students. If you have any questions or comments about any aspect of ADI, please drop me an email to brywick@adihome.org. Thanks for your continued support. *ADI*

Summer 2005 Direct Instruction Training Opportunities

The Association for Direct Instruction is pleased to announce the following intensive DI training conferences. These events will provide comprehensive training presented by some of the most skilled trainers in education. Plan now to attend one of these professional development conferences.

Save these dates:

8th Southeast Direct Instruction Conference and Institutes

June 21–24, 2005
Florida Mall Hotel
Orlando, Florida

4th Mountain States Direct Instruction Conference

July 11–13, 2005
Antlers Hilton
Colorado Springs, Colorado

31st National Direct Instruction Conference and Institutes

July 24–28, 2005
Eugene Hilton and
Conference Center
Eugene, Oregon

10th Midwest Direct Instruction Conference and Institutes

August 3–5, 2005
Holiday Inn Mart Plaza
Chicago, Illinois

20th Atlantic Coast Direct Instruction Conference and Institutes

August 8–10, 2005
Wyndham Baltimore Inner Harbor
Baltimore, Maryland

The schools and organizations listed below are institutional members of the Association for Direct Instruction. We appreciate their continued support of quality education for students.

Adamsville Elementary School
Atlanta, Georgia

AL HOPE Inc.
Columbus, Ohio

Alpha System
Des Moines, Iowa

American Samoa Department
of Education
Pago Pago Tutuila, American Samoa

Arkansas School for the Blind
Little Rock, Arkansas

Baltimore Curriculum Project Inc.
Baltimore, Maryland

The Barclay School #54
Baltimore, Maryland

Berks County Intermediate Unit
Reading, Pennsylvania

Big Lake Elementary
Big Lake, Alaska

Burlington Area School District
Burlington, Wisconsin

Cache Valley Learning Center
Logan, Utah

Center Academy
Flint, Michigan

Cheyenne Mountain Charter
Academy
Colorado Springs, Colorado

Chief Leschi Schools
Puyallup, Washington

Chipman Middle School
Alameda, California

Chisago Lakes Area Schools ISD
2144
Lindstrom, Minnesota

Covington Independent Public
Schools
Covington, Kentucky

Detroit Advantage Academy
Detroit, Michigan

The Douglas Academy
North York, Ontario, Canada

Dreamcatcher Direct Instruction
Centers
Boulder, Colorado

East Side Charter School
Wilmington, Delaware

Educational Resources Inc.
Cape Coral, Florida

Foundations for the Future Charter
Academy
Calgary, Alberta, Canada

Frank Elementary School
Kenosha, Wisconsin

Franklin Academy
Wake Forest, North Carolina

Garden Homes School
Milwaukee, Wisconsin

Gering Public Schools
Gering, Nebraska

Hattiesburg School District
Hattiesburg, Mississippi

Hawthorn School District 73
Vernon Hills, Illinois

Heritage Academy
North Augusta, South Carolina

Hinckley Finlayson School District
Hinckley, Minnesota

Hinsdale Community CSD 181
Hinsdale, Illinois

Humboldt Park School
Milwaukee, Wisconsin

Imperial County Office of
Education
El Centro, California

The Institute for Effective
Education
San Diego, California

Jackson Elementary
Medford, Oregon

James Irwin Charter Schools
Colorado Springs, Colorado

Kalamazoo Advantage Academy
Kalamazoo, Michigan

Keaau Elementary School
Keaau, Hawaii

Lancaster-Lebanon Intermediate
Unit 13
Harrisburg, Pennsylvania

Laurel Nokomis School
Nokomis, Florida

Leavenworth Public Schools
Leavenworth, Kansas

Littleton Preparatory Charter
School
Littleton, Colorado

Lost River Elementary
Bowling Green, Kentucky

McDonnell Elementary
Huntsville, Alabama

Montgomery Public Schools
Montgomery, Mississippi

Morningside Academy
Seattle, Washington

Mountain View Academy
Greeley, Colorado

Mt. Pleasant Cottage School
UFSD
Pleasantville, New York

Orange County PS/Educational
Leadership Center
Orlando, Florida

Otter Creek Institute
Altoona, Wisconsin

Peterson Elementary School
Montgomery, Alabama

Randolph Magnet Elementary
School
Chicago, Illinois

Riverside Academy
Cincinnati, Ohio

Saint Anthony School
Milwaukee, Wisconsin

School District of Colfax
Colfax, Wisconsin

SELPA, Monterey County
Salinas, California

SETRC/ C/O BTC (910A)
Buffalo, New York

Shelby County Board of
Education/Special Services
Center
Alabaster, Alabama

SRA McGraw-Hill
Moorestown, New Jersey

Sto-Rox School District
McKees Rocks, Pennsylvania

Sussex County Public Schools
Sussex, Virginia

Village of Excellence Academy
Tampa, Florida

A Layman's Description of Direct Instruction

Direct Instruction programs are designed to control all the variables that make a difference in how students learn—how fast new material is introduced, the amount of practice provided on applying concepts, the feedback teachers provide students, the sequence of skills that are taught to teach a complex skill like reading. The goal of Direct Instruction programs is to teach everything the children need to master a particular subject or skill and to teach it efficiently, but not to teach them things they don't need.

Direct Instruction programs differ from traditional ones in five principle ways.

1. Direct Instruction lessons do not focus on a single topic (such as contractions or determining if something is a fact or an opinion). Instead, Direct Instruction lessons work on five or more different skills

and work on these skills lesson after lesson, gradually integrating these skills into new higher-order skills.

2. Only about 10% of what occurs in a lesson involves new concepts. The rest of the material involves reviewing and applying concepts that have been introduced in preceding lessons. This small-step design and constant review guarantees that all children will learn everything the program presents.
3. Direct Instruction programs are scripted to assure that teachers give adequate explanations, quickly and efficiently. The Direct Instruction programs specify the exact wording and the examples the teacher is to present for each exercise in the program, which ensures that the program will communicate one and only one possible interpretation of the skill being taught.
4. The structure of the program permits predictions about the skills

children will have mastered at any time during the year. If the teacher follows the program carefully, an average group will progress at the rate of one lesson per day. All children within the group will be at mastery, so there are no surprises. No children fail to learn to read by the end of kindergarten, for instance. These predictions cannot be made with traditional programs because the design of these programs permits a lot of children to slip through the cracks.

5. All Direct Instruction programs are extensively field tested and revised on the basis of how children perform. When published, the program will work. Note that such field testing is not done as part of the development of other published programs. That's why they tend not to work well with the full range of students.

In summary, the Direct Instruction program presents the material the way an expert would present it. By following the program specifications, any teacher or parent becomes an expert instructor. *ADI*

Zig Engelmann's Response About a Student Who Stutters

The following question was posted on the DI listserv regarding stuttering. Zig Engelmann provided a response. (For directions on how to join the DI listserv, see page 38.)

Question: We currently have a sixth-grade boy in *Corrective Reading Decoding Level B2*. The teacher is looking for

ideas that could help him through his stuttering when he has to read orally, whether it's a word row, connected sentences, or the timed readings.

Response: The following is based on the assumption that your boy stutters at times other than when he reads aloud. The problem is that the

response cost of the *Corrective Reading* format is very high for your boy. That means that your boy is trying to do something that IS very difficult for him. The harder he tries, the more he stutters. The problem is exaggerated if he is not completely firm on the words he's trying to read.

The idea of singing or chanting the words is good. But the biggest component is that he must believe that it will make a difference. If chanting becomes a challenge, it won't be effective.

So do this: Practice on word lists composed of words you know he's firm on. Have the same words (10–12) in different orders on several lists. Show him how you want him to do it. Model saying the word slowly ala a Gregorian chant. Point out (frequently) that if he does it that way, he'll be able to read the words with no stuttering. Reinforce the heck out of him when he makes good approximations.

Make it very clear that you don't care how long it takes him to read the words. There is no hurry.

Practice the simple lists until he is very reliable. Then intersperse some of the words he has been having trouble with. Keep at least the first two words in the list familiar ones that he has practiced. "This list has some new words, but you can read them if you do it just like the other words." With the first words familiar, you'll prompt the right strategy.

When he can handle lists with about 10 total, 6 of which are new, introduce some of the lists he has trouble with now, but start the list with one of the familiar words on which he is perfectly firm.

Remind him that these words are hard, but there is no hurry. Praise him for

reading with only a few stutters or none.

Have him chart his performance, indicating the number of words that he did without stuttering for each list.

When he seems to be pretty good with the chanting routine, tell him that he can probably start out chanting the first word or two and then say the remaining words in a regular voice. Give him initial practice with material that is easy for him to read. Praise successful applications and improvement on list reading.

For passage reading, go back in the program about 15 lessons, and give him the same directions. Don't hurry; say the first word in a chant, and use a chant if you start to stutter. Chart non-stutter words. Tell him not to expect improvement every day, but point out the improvement he shows over time.

Let the classroom teacher know about this program so she can make adaptations for him in the classroom. She should not do timings. She should not hurry him or put any pressure on him to read words in lists faster. When he's comfortable, he can try to up the rate, but he will always have a back-up strategy (chanting a word or two) that will get him back in the right frame. Remember, the idea is to reduce the

response cost so he doesn't get tense and try to talk faster. If he does make stuttering mistakes, assume that part of the problem is that he is not accurate on the words. If he does not think of reading in the same way he thinks of talking fast, he'll be able to approach the words in a way that does not promote stuttering. Place him where you're sure that he's able to read the words accurately. Remind him that his chanting strategy is magic and it will help him gain control.

Within about 6 months of using this program, you should see some pretty great differences in his performance.

I've specified a lot of this stuff for you, because I don't know the extent to which the school program can accommodate the kind of practice he needs. It's important, however, for the teacher to know what the program is and not to do things that conflict with it. Don't hurry responses or act impatient, implying that he should go faster. He'll go faster when he can.

If his problem is not severe, you should be able to abbreviate the program considerably. Good luck. *ADI*

Siegfried Engelmann

ROBERTA WILSON, Humboldt Park School, Milwaukee, Wisconsin

Futures Filled With Hope

"Reading is the fundamental skill that separates students who struggle from students who succeed."

These words of State Superintendent Elizabeth Burmaster remind teachers that we play an important role in preparing students for the rest of their lives. For many, particularly minority

and economically disadvantaged students, reading success is unlikely in the absence of a powerful instructional intervention. The aim of the No Child Left Behind (NCLB) Act, and the Reading First initiative which is a part of NCLB, is to bring a future filled with hope to these children by assuring that they receive highly effective

reading instruction. Success stories from Humboldt Park School (Grades K–8) demonstrate teachers' commitment to reduce the number of students performing below grade level on outcome measures at each grade from K–3 and thereby meet the ultimate goal of the Reading First initiative.

The instructional requirements outlined in Humboldt Park's Reading First grant stipulate a daily 90-minute uninterrupted core reading block in which *Reading Mastery* is used in

Grades K–3. An additional 30 minutes of enrichment reading includes extension activities from the SRA *Learning Through Literature* collection, *Reading Mastery* Independent Reader kits, *Building Vocabulary Skills* books, and the literature and activities across the curriculum projects in *Reading Mastery Plus III* and *IV*. Students whose DIBELS and CBM scores indicate the need for additional individualized instruction receive another 30 minutes daily of planned reading intervention that is aligned with their core reading program. Trained Reading First staff members provide the interventions. On a bimonthly basis, progress is assessed and intervention plans are changed as indicated by student data. The success stories of two struggling students who required additional instruction—Darius and Joey—are reported here as examples of the many successes that have resulted from the implementation of Direct Instruction at Humboldt Park.

Darius entered Humboldt Park in September of 2004 as a second grader. He had limited phonemic awareness, no sight word knowledge, and low self-esteem. Darius placed in *Reading Mastery I* Lesson 1. He was put into a group with six first graders who were also new to Humboldt Park. *Reading Mastery I/II Fast Cycle* was used with the group. The six first graders in this group were significantly below their first-grade peers who were into *Reading Mastery II*. Darius's second-grade peers were in *Reading Mastery Plus III* and *Horizons C–D*.

For 90 uninterrupted minutes every day, Darius smiled and actively participated in group instruction. Early in the year, however, it became apparent that Darius needed more. It was decided that the Reading First intervention staff member would provide additional individual instruction for 30 minutes each day. That additional instruction helped Darius to remember and gener-

alize the sounds and words taught in the DI lessons. In November, Darius was in *Reading Mastery Fast Cycle I* Lesson 40. He read his first story from the SRA Independent Readers series. As Darius sounded out each word in the first two sentences of the story “Sit,” his finger moved effortlessly under each sound until he said each word, “This is a rock. Sit on it.” After reading the page, Darius looked up. His eyes beamed, his smile cut from ear to ear, and his confidence in himself told me that our commitment to him had made a difference.

When Joey entered third grade in September, he had only a smattering of sound and word knowledge. His placement test indicated *Reading Mastery II* Lesson 25; however, his skill base was uneven and he needed to learn many of the sounds presented earlier in *Reading Mastery I*. It was decided to have Joey participate in a 90-minute *Reading Mastery II* block with four

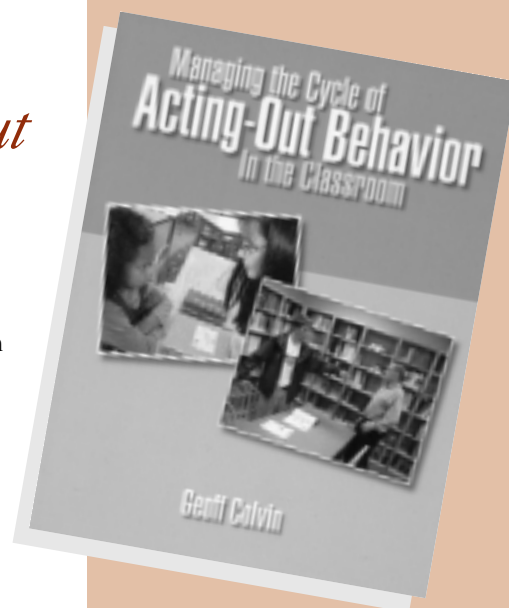
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Geoff Colvin

This text is based on Dr. Colvin's 25 years of experience and research in working with the full range of problem behavior. He presents a model for describing acting-out behavior in terms of seven phases. A graph is used to illustrate these phases of escalating conflict. The information will enable the teacher or staff member to place the student in the acting-out sequence and respond appropriately. Well-tested, effective, and practical strategies are described in detail for managing student behavior during each phase of the cycle. The book also contains many helpful references as well as an extensive set of reproducible forms.

To order, see page 42.



Cost:

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other students and also provide him with additional instruction from *Reading Mastery I*.

Upon telling all the students that I guaranteed that they would leave the group as readers, Joey shyly raised his hand and asked, “Will I be able to read chapter books?” I am convinced that his desire to read chapter books drove him to work hard to reduce his careless errors and improve his fluency. His mother listened to him reread each day’s story and was very pleased with his progress. She said

that Joey had had trouble with kids at his other school, but not at Humboldt Park.

In mid-October, Joey was retested to see if he could be placed in a more challenging reading group. However, he had not learned the final *e* and double consonant rules that he would need to know before moving to a higher group. In an attempt to close those reading skill gaps, specific words and checkout lessons were added to his Reading First intervention plan. Renewed effort by the Reading First

intervention staff member, Joey’s Mom, and Joey soon paid off and Joey was able to join a *Reading Mastery III* group by the end of October. The joy of watching Joey open his very own set of chapter books was matched only by his comment that “I’ve read five pages of the first book already! Thank you, Mrs. Wilson!”

Reading success really does bring a future filled with hope a bit closer to all of our students, even those who struggle the most. *ADI*

DON CRAWFORD, Otter Creek Institute

Improving Fluency to Achieve Automaticity in Decoding

In a previous issue of *Direct Instruction News* (Fall, 2004, 4[2] pp. 20–22), we discussed why “Automaticity in Decoding” is essential to improve reading comprehension. Students should increase the rate at which they can read aloud by about 1.5 words per minute each week and 50 words per minute each school year until they can read at or above 150 words per minute with ease. What if students are mastering the lessons of *Reading Mastery* or *Corrective Reading*, but are not making these kinds of improvements in their reading rate?

To increase their growth in reading rate, students will, not surprisingly, need extra practice reading aloud. The National Reading Panel noted that there is no evidence that silent reading will do the job—it has to be oral reading. This is so fundamental, and it so often remains unchanged, that it bears repeating. For any student to increase their reading fluency, and to increase it faster than the current rate of improvement, that child will have to spend more time reading aloud. The

teacher has to either add reading time, or restructure reading so that each child has more opportunity to read aloud each day.

How can that best be done? If students read in pairs, to each other, they spend half of their time actually reading and so their practice time is maximally effective. This is why *Corrective Reading* has, as part of each lesson, two checkouts where students read aloud to each other. The first checkout has students read part of the day’s lesson for accuracy. The second checkout is to read part of the previous lesson for fluency. Oddly enough, many teachers skip these checkouts, because the children don’t stick to the task, or because they are afraid the reading partner won’t correctly report or fix errors. What is essential in that activity is reading aloud as correctly and fluently as one can. The critical function of the peer monitoring is just to ensure that the reader is doing his or her best reading. So what if the peer misses an error or two? Done right, this paired reading is terrific practice.

While a third or fourth group reading of the story might also help, the effectiveness of practice is directly related to the amount of time each student is actually reading, rather than listening to others read. (Note: Requiring students to follow along or track with their finger greatly increases the time they spend reading during group reading exercises).

A teacher who is not successful in requiring students to track with their fingers, or not successful in getting them to read to each other for the *Corrective Reading* checkouts, must work on classroom management skills. Such a teacher won’t be able to institute the suggestion below until after obtaining a much higher level of cooperation in the classroom. This is a serious issue because lack of teacher skill in this area of classroom management compromises achievement and really hurts the children.

What if a group is not making adequate growth in reading fluency even though they are already following each other’s reading with their fingers all the time? The teacher needs to add in additional reading aloud with a partner, but structure it in such a way that students stay on task and benefit from the practice. Imagine they are in *Read-*

ing Mastery and don't have daily checkouts designed for peer practicing. Certainly a good start would be to do the same kind of checkouts, one for accuracy and one for fluency, as in *Corrective Reading*.

For *Reading Mastery*, the accuracy reading would work like this. The teacher needs to count out and mark 1 minute's worth of words at the beginning of the current story. The first stories on the "Take home" sheets in *RMI* would start with an expectation of 3 words per minute. *RMII* should start with an expectation of 50 words per minute, while *RMIII* and above should start at 100 words per minute. In all levels, the expectation should be raised one word every three lessons. During the checkout the students read to each other with a goal of making less than 5% errors (the teacher should figure the error limit ahead of time). Those who can read the passage with less than the error limit get points, or gold stars, or other rewards. After the first member of each pair reads, the students switch roles.

The fluency reading would work similarly. Readers should read aloud the marked out passage from the previous lesson. The teacher times for 1 minute while the student reads the passage and their peers listen and count errors. If the readers complete the marked out passage with less than the required number of errors and in less than 1 minute—they meet the goal and get a reward or points. Then students switch roles. As in *Corrective Reading*, the students should record the number of words read correctly on a graph with an aimline of the expected score. The students can keep track of their rate on the graph but the teacher should monitor it to make sure that students are making the gains of about 1.5 words per week.

What if a group is already tracking all the time they are reading and is doing the daily checkouts and still not seeing

the growth of 1.5 words per minute each week that they should? Or worse yet, what if some students aren't meeting the checkouts? Teachers should add more time for students to practice reading aloud using the suggestion below. Teachers can keep track of the effect of this additional practice on the graph students are making each day from the fluency checkout.

Repeat rereadings have been shown to be effective for improving reading rate. Over time, rehearsing the oral reading of a bunch of selected passages until they are read much more fluently

The reader reads and rereads each sentence until the listener deems the sentence to have been read smoothly and fluently before going on to the next sentence.

seems to help unrehearsed (cold) reading of other passages. Because two thirds of all reading material consists of the 300 most common words, just about anything students rehearse, until they read it fluently, will help their reading of just about anything else. There are commercially prepared sets of materials for sale at ReadNaturally.com to assist teachers with the passages, goals, audiotapes, and everything needed to run such a program. However, DI materials that are exactly at the right level for the student and are readily available to the DI teacher work just as well.

Once passages have been rehearsed they are no longer good for measuring students' true rate and accuracy—so use passages from at least three lessons prior. And if possible avoid the passages that are used for the rate and accuracy checkouts—in case the student is ever checked out on them

again. The teacher takes the students' current rate of reading unrehearsed passages and then marks off passages 40% longer than what they would read in 1 minute (multiply by 1.4). The reader's goal would be, after rehearsing, to read that marked-off passage in 1 minute or less. If setting individual goals and counting and marking individual passages is impractical, the teacher can find the average rate in the group and set the goal the same for everybody.

Once passages are marked, students work in pairs for 5 to 7 minutes per turn on the sentences in the marked-off passage. With the help of their partner, students correct and reread each sentence again and again until fluent. Error corrections should be just the same as when the teacher is conducting reading—give the word, repeat the word, reread the sentence from the beginning. The reader reads and rereads each sentence until the listener deems the sentence to have been read smoothly and fluently before going on to the next sentence. First graders and below can't seem to make that determination and may need to simply practice each sentence a set number of times. Requiring that the reader read each sentence aloud at least three times is a good starting point for younger students.

Readers keep reading and rereading the sentences in the passage until the teacher calls time. Start at about 5 minutes per partner and gradually increase as students are able to stay on task longer. At the end of the practice time the readers all take a 1-minute reading timed by the teacher. Those who meet the goal of reading the marked-off passage in under a minute get points or a star or something. To increase motivation students can "earn" their way to a new passage by only being allowed to move on to practicing the next passage when the last one is passed. Or students could be moved on to the next passage each day

regardless, and simply get fewer points if they don't pass the one time they practice.

After timing the first readers, switch roles and have the new reader practice their passage one sentence at a time for the same length of time. A kitchen timer is needed to keep track of the time so that both readers get the same amount of time and time isn't accidentally extended. Then the new readers are given a 1-minute timing. Points can be kept for team contests, or for between class contests, or for grades or treats.

To keep track of student progress, use the lesson numbers to number the passages. Have students make a list to keep track of which passages have been rehearsed and "passed." It is a good idea to have students note the number of correct words per minute

and errors that they achieved when they passed the passage, e.g., 114/4, meaning 114 correct words per minute with four errors. It would be even better to have students graph their postpractice rates daily—but remember, these do not represent their current "cold" reading rate.

If the growth in reading rate, as measured on the unrehearsed daily checkouts, does not improve up to 1.5 words per week, a second round should be done, rather than extending each turn beyond 7 minutes. This is hard work and readers will need a break after 7 minutes. More than likely, if the rest of the reading lesson is done to mastery, this additional practice should do the trick. *ADL*

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MARTIN KOZLOFF, University of North Carolina, Wilmington

Martin's Musings

"We Don't Care About Data."

The huge gap in school achievement and later quality of life between minority and white students is usually explained by things that are largely irrelevant—culture, "race," family structure, the percentage of minority children in a school, socioeconomic status, students' self-perceptions, and teachers' expectations. I'd like to think that focusing on the wrong things is simple laziness—a person looking for keys under a streetlamp; it's the easiest place. But now I think it's more because "social reformers" are happiest dealing with vague abstractions—their "big picture" of how "society oppresses the poor." This

enables them to conjure up gaudy schemes (which elicit hormonal secretions—the bigger the scheme the more important they feel), to get long-running grants and high prestige positions, hire friends, write articles, and end up with nice retirement annuities.

Let's get serious about improving achievement. You aren't going to change anyone's "race" or culture. No "program" is going to raise children's self-esteem and children's and teachers' expectations—for very long. And we aren't going to "make the distribution of wealth more equitable

or equal"—even if we knew what that meant. These sorts of efforts to create a "new man" and to revolutionize society almost always yield disaster. (Think "Soviet Union.") But by then the reformers are long gone. Besides, their kids are in private schools. But don't tell that to the reformers. They'll get testy. After all, you're taking away their stock in trade—the false promise of edutopia—if we'd only give them power, money, our kids, and all the time in the world.

Reformers almost never consider the obvious. What is closest to student learning is not race, social class, culture, school size, and all the other factors the reformers tout, but *communication with the teacher*—organized as instruction within a curriculum. The reason poor kids don't learn much in school is that they come to school *less prepared* and because most schools use *curricula that are horrible* (superficial coverage, illogical sequences, little

built-in practice) and teaching methods that *miscommunicate information*. And there are tons of good data showing that well designed curricula and logically clear instruction can override the effects of social class, minority group status, and family background.

Follow Through

In the mid-1960s, President Lyndon Johnson's administration created Head Start—a large number of preschool programs primarily for disadvantaged children. After a few years he also funded Follow Through to see which Head Start models (curricula) yielded the most beneficial change. Pretty rational. Find out what works best and promote it. Find out what fails and dump it. That's how they do it in medicine, engineering, and other serious professions.

That's NOT how they do it in education.

Follow Through ran from 1967 to 1995. It tested nine curricula—many of which are still used. Follow Through involved about 75,000 children per year in about 180 schools. Each model school was compared with control schools.

Here's a summary description of the models.

Cognitive/Conceptual Skills Models

Cognitively-Oriented Curriculum (High Scope Foundation)

This program (STILL widely used) was based on Piaget's theory of stages of cognitive development and his assertion that teachers should be more like guides on the side rather than communicators of information.

Florida Parent Education Model (University of Florida)

This program taught parents of disadvantaged children to teach their children. At the same time, students

were taught in the classroom using a Piagetian approach.

Tucson Early Education Model (University of Arizona)

TEEM used a language–experience approach (much like whole language). It was based on the notion that children have different learning styles.

Affective Skills Models

Bank Street College Model (Bank Street College of Education)

This model emphasized learning centers that gave children many

Direct Instruction focuses on cognitive learning—concepts, propositions, cognitive strategies. It is not rote learning.

options, such as counting blocks and quiet areas for reading. Much of the teaching was incidental as the teacher tried to follow children's lead.

Open Education Model (Education Development Center)

This model was derived from the British Infant School model. Reading and writing were not taught directly, but through stimulating a desire to communicate.

Responsive Education Model (Far West Laboratory)

This eclectic model used learning centers and students' interests to determine when and where each child would be stationed. The development of self-esteem was considered essential to the acquisition of academic skills.

Basic Skills Models

Behavior Analysis Model (University of Kansas)

Developed by Donald Bushell, this model used a behavioral (reinforcement) approach for teaching

reading, arithmetic, handwriting, and spelling. Children received praise and tokens for correct responses. Teachers used programmed reading materials that presented tasks in small steps.

Language Development (Bilingual) Model (Southwest Educational Developmental Laboratory)

This model used an eclectic approach based on language development. When needed, material was presented first in Spanish and then in English.

Direct Instruction Model (University of Oregon)

Developed by Siegfried Engelmann and Wes Becker, this model used the *DISTAR* (Direct Instruction System for Teaching, Achievement, and Remediation) reading, arithmetic, and language programs. The model assumes that the teacher is responsible for what the children learn.

Here are some of the main features of Direct Instruction.

1. Direct Instruction focuses on cognitive learning—concepts, propositions, cognitive strategies. It is not rote learning.
2. Brief (5 minute) placement tests are given to ensure that each child begins with lessons for which he or she is prepared.
3. Children are taught in small groups.
4. The children sit in front of the teacher—close enough that he or she can see and hear each one.
5. Lessons move at a brisk pace. This sustains children's attention and results in a high rate of learning opportunities per minute.
6. Instruction is organized in a logical–developmental sequence. All of the concepts, rules, and strategies that students need in any lesson have already been taught. In addition, what they learn in any lesson is used in later lessons. There is no inert knowledge.

7. Knowledge (e.g., how to solve $4 + X = 12$, how to sound out words) is taught directly and explicitly. For example, the teacher verbalizes her reasoning process while demonstrating the strategy for solving an arithmetic problem. This enables students to internalize the teacher's knowledge and become independent.
8. Instruction is aimed at mastery. The group and each child is always "firm" before the teacher moves to the next exercise.
9. Teacher–student communication has a common format from lesson to lesson. This means that students need to attend only to the content of the communication, and they do not have to figure out how the teacher is communicating. The general format is Model, Lead, Test:
 - (a) Model: For example, the teacher says, "I can read this word the slow way. Listen. wh e n."
 - (b) Lead: This step is guided practice; teacher and students work problems, sound out new words, or read passages together. For example, the teacher says, "Read this word with me. Get ready. wh e n."
 - (c) Test: Children now do the exercise on their own. "Your turn to read this word the slow way. Get ready..."
 (More on this highly effective format later.)
10. Gradually, instruction moves from a teacher-guided to a more student-guided format.
11. Direct Instruction would most likely be used at the beginning of some class periods. The rest of a class period would be individual or small group work on generalizing or adapting what was learned to new material or problems.

(From Adams, G. L. [1995, Winter]. Project Follow Through: In-depth and

beyond. *Effective School Practices*, 15[1], 43–56.)

Findings. Which Curricula Did Good Things for Kids? Which Curricula Made It Worse for Kids?

A major source of data was scores on the Metropolitan Achievement Test, the Coopersmith Self-Esteem Inventory, and the Intellectual Achievement Responsibility Scale. The main results were as follows.

Children who were taught reading, spelling, and math with Direct Instruction were far superior in achievement to children taught with any other method in both basic and higher-order conceptual skills (e.g., problem solving).

1. Children who were taught reading, spelling, and math with Direct Instruction were far superior in achievement to children taught with any other method in both basic and higher-order conceptual skills (e.g., problem solving). Most of the other "innovative" models did far worse even than non-DI control schools.
2. Disadvantaged children taught with Direct Instruction moved from the 20th percentile on nationally standardized tests to the 50th percentile. In other words, Direct Instruction made them regular students in achievement. However, the standing of disadvantaged children receiving some of the other (still used) non-DI curricula decreased relative to the rest of the country.

3. Children taught with Direct Instruction developed higher self-esteem and a stronger sense of control of their learning than did children receiving the other forms of instruction; this, despite the fact that some of the other curricula focused on self-esteem.
4. Follow-up studies showed that children (predominantly African American or Hispanic) who had been taught reading and math using Direct Instruction in elementary school were, at the end of the ninth grade, still 1 year ahead of children who had been in control (non-Direct Instruction) schools in reading, and 7 months ahead of control children in math.

Also, in contrast to comparison groups of children who had not received Direct Instruction in earlier years, former Direct Instruction students had higher rates of graduating high school on time, lower rates of dropping out, and higher rates of applying and being accepted into college.

See the *The Washington Times* graph on page 15.

Notice that DI and Behavior Analysis—the two models that had clear objectives, taught in a logically progressive sequence, involved teachers focusing on exactly what they wanted kids to learn, communicated as clearly as possible, and provided practice to the point of mastery—did the best in all areas—how much kids learned, how they felt about themselves, and how much control they felt they had over their learning.

Ironic. The MOST teacher-directed approaches produced kids who felt that THEY were in control of their learning. I suspect this is because they learned SO MUCH and so easily!

So, you think schools, districts, and states adopted Direct Instruction and Behavior Analysis? WRONG. Instead, the Ford Foundation hired another

team of statisticians to analyze the data that HAD been analyzed by ABT Associates in Cambridge, MA. Apparently, the Ford Foundation, long a supporter of so-called progressive causes and programs, was not happy that the “progressive” ed programs (whole language, child-directed, self-esteem first, constructivist) not only were beaten by their self-created enemy (Direct Instruction and Behavior Analysis) but (as the graph shows) actually SUPPRESSED children’s growth.

The new statisticians made the claim that no model did any better than the others.

And THIS was the news sent throughout Edland. “Do whatever you want.

They are all good. And don’t listen to the people who say DI was the best.”

Result? DI and Behavior Analysis were shunned for decades. And the eduquacks kept training new teachers to use the models that Follow Through data had shown were next to useless and often destructive.

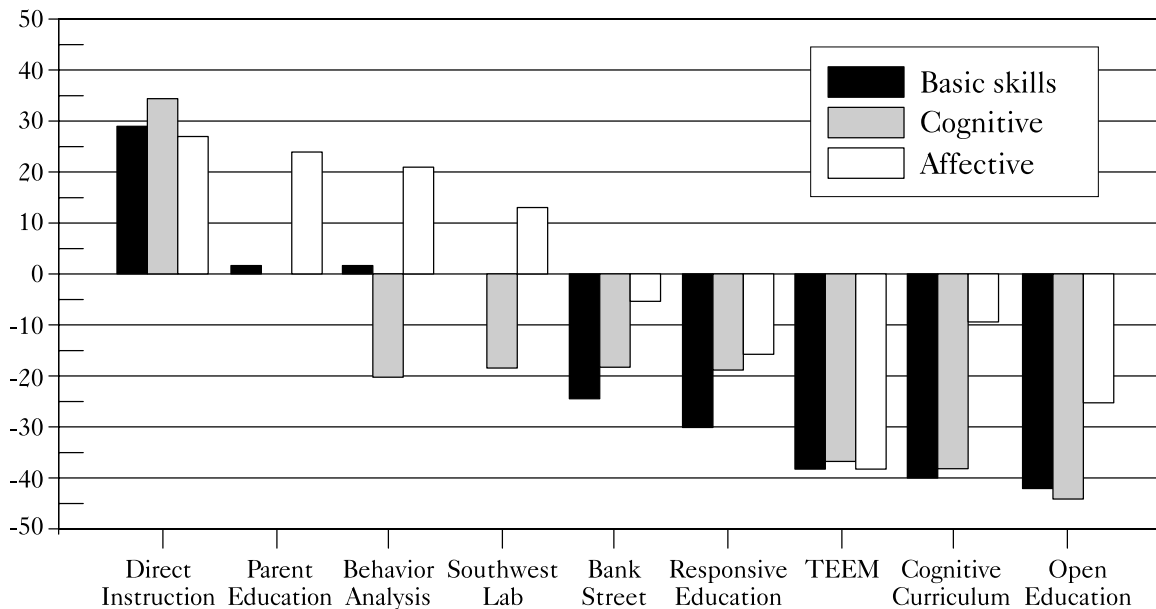
You see, just as the grand social reformers presume that OUR society belongs to THEM (because they assume that they are much smarter than the rest of us) and is an object for them to experiment with, so the edureformers consider kids and their futures to be their “responsibility” (for they are SO much smarter than parents and teachers) and also their prop-

erty. And THIS is why the past 100 years in education is largely the history of experimenting with kids.

This has begun to change—as states have passed accountability legislation making districts raise achievement or else. Also, No Child Left Behind and Reading First put pressure on schools to use curricula and methods that are shown to work—which narrows the field to Direct Instruction and programs that share its design features.

But make no mistake, the progressive eduquacks are alive and well. This is their “hudna.” They are doing what they have always done. Waiting for a change in administration. Then they will say, “WE’RE BAAAAACK!” *ADI*

Comparison of Achievement Outcomes Across Nine Follow Through Models



Basic skills models

Direct Instruction
Behavior Analysis
Southwest Lab

Cognitive skills models

Parent Education
TEEM
Cognitively Oriented Curriculum

Affective skills models

Bank Street
Responsive Education
Open Education

Baseline (0) represents average of the national pooled comparison group.

Source: Education Achievement Systems

The Washington Times

Who Is to Blame?

Who is to blame when children fail to learn? Perhaps blame is too harsh and pejorative an expression, carrying with it a sense of intention or at least reckless disregard by the responsible party. School learning is a primarily cognitive activity which requires adequate capacity and intention on the part of the learner and an environment enabling successful interactions to occur. Thus there are numerous possibilities to account for failure to learn. Determination of responsibility can be considered from at least two perspectives. One concerns who the various players believe has the responsibility for children's learning. Who do policy makers, parents, and teachers consider responsible?

A more objective approach is to discover, as precisely as possible, what factors produce success in a child's school learning career. The survey information is first based on opinion and second upon data. However, the influences on success are likely to be many, entangled, and interacting. What features in common do successful students have? Are there features in common among unsuccessful students? What is the role of intelligence, socioeconomic status, early childhood experiences, education systems, school organization, classroom practice, student motivation?

Perspectives vary, depending at least partly upon which feature is most strongly emphasized. For example, many argue that intelligence (the inherited component) is the major determinant of success (Herrnstein & Murray, 1994); whereas, others focus upon social class (Rothstein, 2004); early childhood experiences, especially language (Hart & Risley, 2003); a child's motivation (Smith, 1992); the relationship with the teacher (Smith, 1992); or classroom

instruction (Engelmann, 1980) as the crucial component.

Is there cause for concern about school failure, or is it simply a case of being critical for its own sake? There is a current public perception that either educational outcomes for students have continued this suggested decline or that the education system is now unable to meet rising community and employer expectations. Only 36% of Americans in 1999 expressed either *a great deal* or *quite a lot* of confidence in the public schools. In 1988, the proportion was 49%, and in 1973 it was 58% (Public Agenda, 2002). The major concern across the nation is education according to a national survey (Zogby International, 2000) by Reuters/Zogby in 2000. The high level of public concern can be gauged from the finding that the second-ranked issue was economy/jobs/taxes. In 1999, a Yankelovich education poll (cited in Herring, 2001) queried parents as to whether education had improved over the past 20 years. It had asked the same question in a poll in 1950. In 1950, 67% of respondents considered education had improved over the previous 20 years; whereas, in 1999 only 26% did so. In 1950, only 13% viewed education as less worthwhile than previously; whereas, 53% now perceived a decline.

Concerns about public education are not new; however, their focus in recent times has shifted. Concerns that have arisen over the last 10 to 20 years include apparent national and state test score declines, unflattering international achievement comparisons, the failure of funding increases to produce discernible results, high school dropout rates, and a perception that schooling and work are insufficiently closely aligned (Levin, 1998).

What Evidence Is There to Justify Concern?

It is not solely a perception by the public that there are serious problems in the education system's capacity to meet community expectations. Numerous surveys and reports have reached similar conclusions.

The U.S. Department of Education reported in 1999 that across the nation 40% of fourth graders failed to demonstrate even partial mastery of the literacy levels required for school success, and among high-poverty schools that figure rose to 70%. Only 1 of 10 students in high-poverty schools read at the *Proficient* level on the National Assessment of Educational Progress (U.S. Department of Education, 1999). Similar results were presented in the Nation's Report Card: Fourth-Grade Reading 2000 (U.S. Department of Education, 2001a) in the finding that only 32% of students could be considered proficient.

Lyon (2001a) has observed that of those who receive special assistance because of early reading problems, only 2% will complete a 4-year college program. Further, more than three quarters of the approximately 15% of children who prematurely leave school ascribe major significance to the difficulties experienced in learning to read. The extent of their basic skill deficit is evident in the U.S. Department of Education (1999) finding that 60% of the unemployed lack the basic skills required to successfully be trained for high tech positions.

It is not only literacy that is of concern. The Third International Mathematics and Science Study (TIMSS) reported that U.S. students were performing unsatisfactorily against many other countries.

In mathematics a score at the 75th percentile in the United States was below the 25th percentile in Singapore. The problems we must address affect not only our average students, but even those who are above average....What we can see in the Third International Mathematics and Science Study is that schooling makes a difference. Specifically, we can see that the curriculum itself—what is taught—makes a huge difference. (Schmidt, Houang, & Cogan, 2002, pp. 2–3)

In a report to the Office of Educational Research and Improvement, Snow (2002) noted that U.S. students are falling behind students in other comparable countries because underdeveloped basic skills limit their attainment in the challenging subject-specific demands of the secondary school curriculum.

The basic attainment of many high school graduates fall below community expectations. Most employers and college professors say that high school graduates generally display *poor* or *only fair* basic skills, such as written expression, spelling, and math (Johnson & Duffett, 2002). The American Management Association Survey on Workplace Testing (American Management Association, 2001) found that about one third of assessed applicants lacked the basic skills necessary to perform the jobs they sought, and 85% of the companies did not hire such applicants.

Even at the tertiary level, problems in the basic skill levels of entrants were of concern, noted The Condition of Education Report (U.S. Department of Education, 2002a). Whilst the problems are not restricted to entrants from minority groups, such candidates do tend to do less well than their peers. A report by the U.S. Department of Education (2002b) indicated that, on average, black tertiary students receive lower academic scores

than do their white counterparts. Numerous universities have found it necessary to institute programs of teaching basic skills, literacy in particular, to their newly enrolled students. However, their attempts are not expected to have a great impact. Partly because of these worrying issues in higher education, and also because of the increasingly diverse population in schools, there has been an elevated

Partly because of these worrying issues in higher education, and also because of the increasingly diverse population in schools, there has been an elevated pressure on elementary and secondary schools to improve their instructional effectiveness.

pressure on elementary and secondary schools to improve their instructional effectiveness.

To What Does the Education Profession Attribute Responsibility?

Wade and Moore (1993) asked teachers the question, “Who is to blame for students’ failure to learn?” That 65% of teachers blamed child characteristics, and 32% of teachers blamed the home situation would probably be a surprise to those parents who view schools as the major influence on learning. Only 3% of teachers blamed teachers or the school system for learning problems. Prawat (1992) found a common belief among teachers that “student interest and involvement constitutes both a necessary and sufficient condition for worthwhile learning” (p. 389). Nuthall (2004) reported a similar finding—that “Within the

professional culture of teaching, it is commonly believed that if something is taught (which usually means explained or demonstrated), it is automatically learned. If it is not learned, then the problem lies in the inadequacy of the student’s ability, motivation, or persistence, not in the ineffectiveness of the instruction” (p. 274).

Alessi (1988) surveyed 50 school psychologists, proposing five possible factors that could explain lack of learning.

They were:

1. The curriculum
2. Ineffective teaching and/or behavior management practices
3. Ineffective school management practices
4. Lack of home-based support by parents
5. Physical and/or psychological problems affecting the child.

The school psychologists produced 5,000 reports on children’s learning problems in that school year. These were later coded to determine to what factors their reports assigned the students’ educational problems.

1. Curriculum factors? None.
2. Inappropriate teaching and behavior management practices? None.
3. School administrative factors? None.
4. Parent and home factors? 10–20%.
5. Factors within the child? 100%.

These two findings are surprising given that schools are considered the teaching arm of the community. There is no question that a great deal of expectation rests on the school system. However, it could be that the task of

success for all appears to those within it as an impossible attainment for a school system, at least with the resources the community is prepared to devote to the task. Perhaps the responses above are simply an understandably defensive response to a situation in which those in the education system come to terms with their inability to achieve all the community's goals. Alternatively, it could be that teachers have a different perspective to that of the rest of the community regarding the process through which learning occurs.

Naturally Unfolding Development

Rousseau believed that children had an innate developmental script which would lead them (though perhaps at differing rates) to competence. Thus, unfettered maturation would allow the child to develop knowledge unaided (Weir, 1990). His ideas gained scientific respectability in the 19th century when they were seemingly supported by a theory of evolutionary biology. This long since discredited theory asserted that the evolutionary journey from amoeba to human infant was replayed in every pregnancy, and the wisdom and knowledge of the parents (and of necessity, beyond) was present in the brain of the new generation. In Rousseau's view humans were noble by nature; ignobility was evoked by societal interference. His argument that society should not interfere in the natural development of children generally was paralleled by his view of the role of education. "Give your pupil no lesson in words, he must learn from his experience" (Rousseau, 1964 cited in Weir, 1990, p. 28).

In more recent times, analogous expressions of the belief system including developmentalism, developmentally appropriate practice, and constructivism have been popular (Stone, 1996). The whole language philosophy that assigns to the teacher the role of concerned facilitator, and

which decries teacher directed instruction as harmful or unproductive can be readily sourced to this romantic Rousseauian view of humans. "We cannot teach another person directly; we can only facilitate his learning" (Rogers, 1961, p. 27). Through providing a range of stimulating activities in a nonthreatening atmosphere it is presumed that the child's natural tendency to learn will be elicited, and that learning will then occur. Emphasis is on creativity, imagination, and general problem solving rather than on prescribed skills and knowledge. This

Strong motivation evolved out of reading success, and weakened motivation followed a lack of such success.

perspective has been widely promulgated through education faculties over the past 20 years through the whole language philosophy. Whole language has been the predominant education model in schools over that period (Hempenstall, 1997).

A problem with this view is that it is based upon belief rather than data. The assumption is that the approach is necessarily correct, so data supporting the approach is unnecessary (Weaver et al., 1997). The dispute with those who focus upon instruction is not actually about technique; it is much more fundamental—about the nature of humans and how children learn.

When pressed, protagonists will argue that since some children do appear to thrive in such a setting, there must be a cause other than the approach to explain the phenomenon of student failure. The extreme example of this philosophy in practice was Summerhill, established by A. S. Neill in 1921. In this school, students were free to

determine in which, if any, activities they would like to engage. Through this freedom the child would naturally make choices in the best interests of his development. "My view is that the child is innately wise and realistic. If left to himself without adult suggestion of any kind, he will develop as far as he is capable of developing" (Neill, 1974, p. 20). Contrary to this belief, a study by Lepola, Salonen, and Vauras (2000) noted that there were no motivational differences between subsequently successful and unsuccessful students prior to school entry. Strong motivation evolved out of reading success, and weakened motivation followed a lack of such success.

On a related concept, a whole industry has developed around the idea that a student's self-esteem must first be strong if learning is to take place. The outcome of this belief is that time is used in class attempting to elevate self-esteem as a prerequisite to attendance towards academic issues. Again, this belief has flourished for a long time without empirical support. Results, now available from numerous large scale studies (Baumeister, Campbell, Krueger, & Vohs, 2004), do not indicate that attempting to raise self-esteem is helpful to students. In fact, there are findings indicating that artificially elevating self-esteem may lower subsequent academic performance and possibly elicit narcissism. At the very least, the activities waste precious time that may have been spent more productively in providing intensive instruction for struggling students. As one effective teacher commented, "When a child is struggling in my class, I don't alter the way I smile—I alter his curriculum."

Weir (1990) was critical of the progressive perspective because it allocated the responsibility for inadequate student achievement to the individual and the home. She believes that advocates of this approach have a responsibility to provide evidence for naturally unfolding development to justify the

use of such indirect process-oriented education. Delpit (1986; 1988) has written passionately about the problems of black students in the education system. She was especially concerned about the effects on minority groups of Rousseau's modern incarnation—progressive education. Rather than this perspective being supportive of personal growth, she considers the approach disempowering. "Adherents of process approaches...create situations in which students ultimately find themselves held accountable for knowing a set of rules about which no one has ever directly informed them" (Delpit, 1988, p. 287).

Are the Students Who Do Not Perform to Expectations Learning Disabled?

According to the Office of Educational Research and Improvement (2001), almost 40% of students nationally read below a *basic* level; that is, they struggle to comprehend even the simplest of texts. For minority groups, these figures are even more alarming—63% of African American fourth graders, 60% of children in poverty, and 47% of children in urban schools fell into this category. In New York state in 2001, only 30% of students passed the eighth-grade English test (Hartocollis, 2002), and nearly 65% of students were unable to compute at grade level (Campanile, 2002).

Apart from the debate about whether a learning disability category really exists or whether it serves a useful function (U.S. Department of Education, 2001b), there is consensus that such a category can account for the failure of no more than about 5% of the population (U.S. Department of Education, 1995). In fact, there is concern that the expanding learning disability category may serve to mask the major issue in educational failure. "Learning disabilities have become a sociological sponge to wipe up the spills of general education. It's where children go who weren't taught well" (Lyon, as cited in Colvin & Helfand, 1999). According to

the Commission on Excellence in Special Education (2002), about 50% of those in special education programs are identified as having a specific learning disability, a category that has expanded by 300% since 1976. Of those students, 80% are so classified because they haven't been effectively taught how to read. Further, few children placed in special education programs make adequate progress or close the gap on their peers in literacy and school attainment.

These data underscore the fact that reading failure is a serious problem and cannot simply be attributed to poverty, immigration, or the learning of English as a second language.

The Commission (2000) further reported that the failure of students with disabilities to complete high school occurs at twice the rate of their nondisabled peers, and enrollment rates in higher education remain 50% lower than enrollment among the general population. So, it appears that the educationally disadvantaged include those in the minority groups that one would anticipate—those in poverty, minority race groups, those with disability, and those with English as a second language. Yet, the high figures suggest that a proportion of struggling students do not arise from those groups, but appear unexpectedly.

When the head of the reading programs at the federal government's National Institute of Child Health and Human Development, G. Reid Lyon, testified to the Senate Committee (Lyon, 1998), he pointed out that 50% of the children reading below the basic level in California were from the homes of parents who were college graduates. In

fact, the children of college-educated parents in California scored lowest with respect to their national cohort. These data underscore the fact that reading failure is a serious problem and cannot simply be attributed to poverty, immigration, or the learning of English as a second language.

In mathematics, the TIMSS study observed that even bright students were lagging in comparison with those in other countries. Interestingly, the countries that did very well in math and science had "a common, coherent, rigorous curriculum" (Schmidt et al., 2002, p. 16).

This is not to suggest that there aren't students with learning disabilities. However, Johnson (2003) underlines Lyon's (as cited in Colvin & Helfand, 1999) perspective in pointing out that the unrealistically elevated rates of diagnosis of learning disability make it unlikely that the level of intensive systematic intervention they require can be delivered. Effective levels of intervention for this group are more likely to be achieved if the quality of initial instruction in literacy reduces the number subsequently diagnosed with learning disability. For example, Johns (2001) reported that the number of pupils referred to special education programs in a Washington school was reduced by 30% after Reading First's introduction.

The Impact of Research on Practice: A Long-Standing Problem for Education

A common feature in the debate about progressive education is that practices remain impervious to the outcomes of empirical research. The failure of research-based knowledge to have an impact upon educational decision makers has impeded growth in that profession for a long time (Carnine, 1995b; Hempenstall, 1996; Marshall, 1993; Stone, 1996). More than 20 years ago, Maggs and White (1982) wrote despairingly, "Few professionals are more steeped in mythology and

less open to empirical findings than are teachers” (p. 131).

Lindsley (1992) was quite scathing in addressing the general question of why effective teaching tools aren’t widely adopted. He considered that teachers have been seduced by the natural learning approaches.

Most educators have bought the myth that academic learning does not require discipline—that the best learning is easy and fun. They do not realize that it is fluent performance that is fun. The process of learning, of changing performance, is most often stressful and painful. (p. 22)

Gable and Warren (1993) noted that the potentially valuable role of behavioral science in education has been largely ignored by decision makers and even by many practitioners. They noted Carnine’s (1991) lament that decision makers lack a scientific framework and are inclined to accept proposals based on good intentions and unsupported opinions. Carnine (1995a) also points to teachers’ lack of training and direction in seeking out and evaluating research. For example, he estimates that fewer than 1 in 200 teachers are experienced users of the ERIC educational database.

Heward (2003) argues that the failure of the profession to attend to research has led to 10 misconceptions about teaching that have become entrenched and that distract teachers from effective approaches to teaching struggling students. The misconceptions are:

1. Structured curricula impede true learning.
2. Teaching discrete skills trivializes education and ignores the whole child.
3. Drill and practice limits students’ deep understanding and dulls their creativity.

4. Teachers do not need to (and/or cannot, should not) measure student performance.
5. Students must be internally motivated to really learn.
6. Building students’ self-esteem is a teacher’s primary goal.
7. Teaching students with disabilities requires unending patience.
8. Every child learns differently.
9. Eclecticism is good.

Gable and Warren (1993) noted that the potentially valuable role of behavioral science in education has been largely ignored by decision makers and even by many practitioners.

10. A good teacher is a creative teacher. (p. 7)

Fister and Kemp (1993) considered several likely obstacles to research-driven teaching, important among them being the absence of an accountability link between decision makers and student achievement. Such a link was unlikely until recently, when regular mandated state or national test program results became associated with funding. They also apportion some responsibility to the research community for failing to appreciate the necessity nexus between research and its adoption by the relevant target group. The specific criticisms included a failure to take responsibility for communicating findings clearly, and with the end-users in mind. Researchers have often validated practices over too brief a time-frame, and in too limited a range of settings to excite general program adoption across settings. Without considering the organizational ramifi-

cations (such as staff and personnel costs) adequately, the viability of even the very best intervention cannot be guaranteed. The methods of introduction and staff training in innovative practices can have a marked bearing on their adoption and continuation.

Meyer (1991, as cited in Gable & Warren, 1993) also blames the research community for choosing restricted methodology (e.g., single subject design), and for being too remote from classrooms. She argued that greater teacher interest will not eventuate until the credibility of research is improved. On the other hand, perhaps it is the tendency of empiricists to place caveats on their findings (as opposed to the wondrous claims of ideologues and faddists unconstrained by scientific ethics) that makes teachers and decision makers wary of empirical evidence.

Fister and Kemp (1993) argued that researchers often failed to meet their own criterion by not incorporating research-validated staff-training procedures and organizational analysis in their strategies for promoting program adoption. Their final criticism involved the rarity of the establishment of model sites exemplifying excellent practice. When prospective adoptees are able to see the reality rather than the rhetoric of a program they are more likely to take the (often uncomfortable) steps towards adoption. In addition, it is possible to discuss with on-site teachers the realities of being involved in the innovation.

Woodward (1993) pointed out that there is often a culture gulf between researchers and teachers. Researchers may view teachers as unnecessarily conservative and resistant to change, whereas teachers may consider researchers as unrealistic in their expectations and lacking in understanding of the school system and culture. Teachers may also respond defensively to calls for change because of the implied criticism of their past

practices, and the perceived devaluation of the professionalism of teachers (in that other professions are determining their teaching practices). Leach (1987) argued strongly that collaboration between change-agents and teachers is a necessary element in the acceptance of novel practice. In his view, teachers need to be invited to make a contribution that extends beyond solely the implementation of the ideas of others. There are some positive signs that such a culture may be in the early stages of development. Viadero (2002a) reports on a number of initiatives in which teachers have become reflective of their own work, employing both quantitative and qualitative tools. She also notes that the American Educational Research Association has a subdivision devoted to the practice.

Hence there are at least three groups with whom researchers need to be able to communicate if their innovations are to be adopted. At the classroom level, teachers are the focal point of such innovations and their competent and enthusiastic participation is required if success is to be achieved. At the school administration level, principals are being given increasing discretion as to how funds are to be disbursed; therefore, time spent in discussing educational priorities and cost-effective means of achieving them may be time well-spent, bearing in mind Gersten and Guskey's (1985) comment on the importance of strong instructional leadership. At the broader system level, decision makers presumably require different information and assurances about the viability of change of practice (cost/benefit being fundamental).

Perhaps because of frustration at the problems experienced in ensuring effective practices are employed across the nation, we are beginning to see a top-down approach, in which research-based educational practices are either mandated as in Great Britain (Department for Education and Employment,

1998) or a prerequisite for funding as in the 2001 No Child Left Behind Act (U.S. Department of Education, 2002c). Whether this approach will be successful in changing teachers' practice remains to be seen. In any case, there remains a need to address teachers' and parents' concerns regarding classroom practice in a cooperative and constructive manner. Vilification, real or perceived, is likely to produce inertia or outright resistance.

Over the past 20 to 30 years there has developed a consensus among empirical researchers about a number of issues crucial to education, and a great

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deal of attention is now directed at means by which these findings can find fruition in the classroom (Gersten, Chard, & Baker, 2000). Carnine (2000) asks why it is that education has appeared impervious to effective practices, and examines what it would take to make education more like medicine—a profession now (though it wasn't always so) strongly wedded to research as a powerful contributor to practice. Perhaps it would be instructive to consider how other professions, like medicine, have addressed the issue of a research–practice synthesis.

The term “evidence-based medicine” was popularised during the 1990s. The intention was to enable practitioners to gain access to knowledge of the effectiveness and risks of different interventions before choosing whether or not to implement them, using as a guide reliable estimates of benefit and

harm (Sackett, McRosenberg, Muir Gray, Haynes, & Richardson, 1996). The intent of evidence-based medicine is to make available to practitioners the complex information from a large number of individual studies. Practitioners would not have the time (and perhaps expertise) to enable the drawing of appropriate conclusions about risk–benefit estimates.

Donald (2002) described four main steps. First, pose a structured question about the target population, outcomes, and the intervention of interest. Second, perform a literature search for the data relevant to the question. Third, assess the data, based upon established criteria for methodological rigor and relevance to the question. Fourth, describe and analyze the resulting data to answer the relevant question.

The contrast with the manner in which a teacher is trained to address a student's spelling problem is indeed stark. Unfortunately, in another parallel with education, fewer than 10% of studies are usually able to be included because of the methodological failings of much of the medical research. Despite the current imperfections, there is strong support within the medical profession for this direction, because it offers a cooperative system that will be in a constant cycle of improvement, thereby providing better health outcomes for their patients. It is further instructive to consider the profession's preparedness to surrender their clinical creativity in the interests of their patients.

In a similar vein to the medical profession, the American Psychological Association (Chambless & Ollendick, 2001) introduced the term “empirically supported treatments” (ESTs) to clinical psychology as a means of focussing attention on the issue of effective psychotherapy. Through examination of research evidence, the Division 12 (Clinical Psychology) Task Force on Psychological Interventions arrived at three classes of interven-

tions that could be applied to any treatment for any particular psychological problem. The criteria for a treatment to be considered *well established* was efficacy through two controlled clinical outcomes studies, or a large series of controlled single case design studies; the availability of treatment manuals to enhance treatment fidelity and reliability; and the provision of clearly specified client characteristics. A second level involved criteria for *probably efficacious* treatments—criteria requiring fewer studies, and/or a lesser standard of rigor. The third category comprised *experimental* treatments, those without sufficient evidence to achieve *probably efficacious* status.

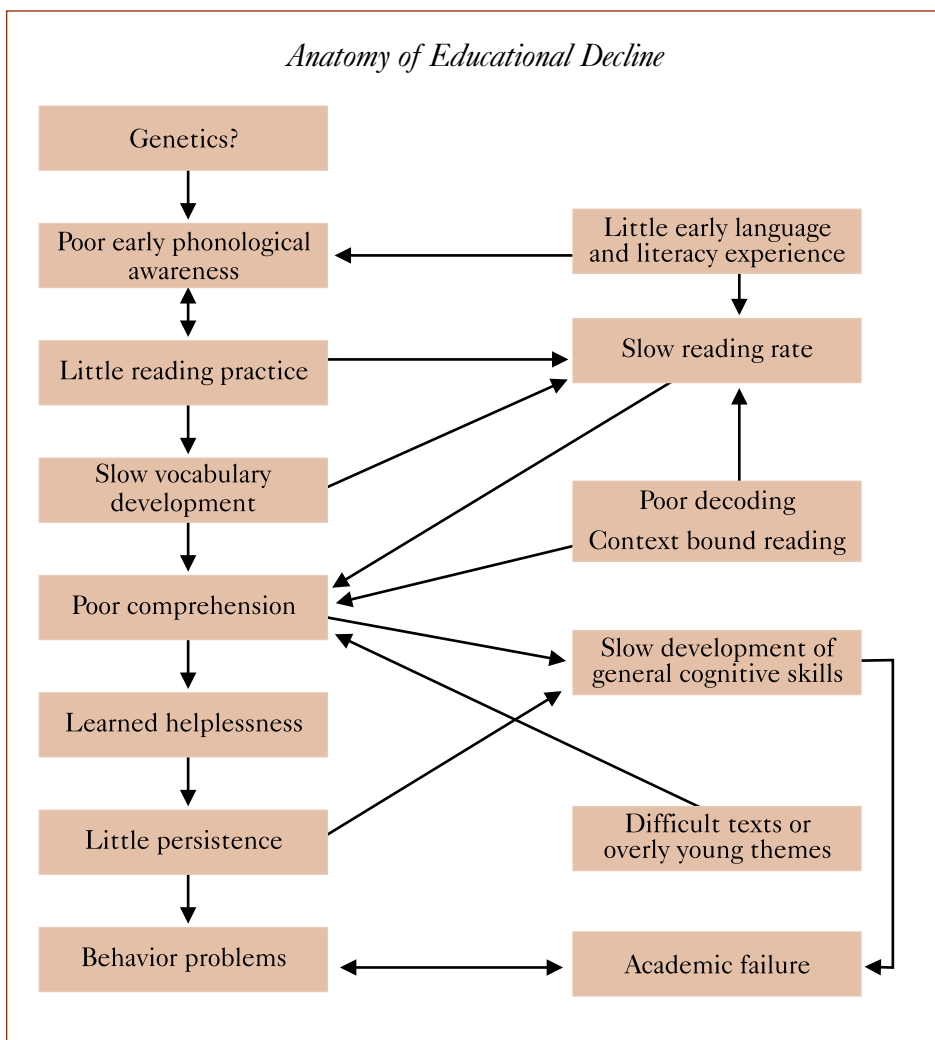
Initially included as *well-established* treatments were 22 treatments for 21 different syndromes and seven *probably efficacious* treatments for seven disor-

ders. With a couple of exceptions, all the *well-established* treatments were behavioral or cognitive-behavioral. The exceptions were family education programs for schizophrenia and interpersonal therapy for bulimia and for depression. Similarly, all but one *probably efficacious* treatment were behavioral, the exception being brief psychodynamic therapy.

The EST emphasis on empiricism also has obvious implications for other fields, such as education, in which decisions about the choice of approach have not previously been based upon any mutually agreed criteria. There are interesting similarities between the response of some psychotherapists to the EST initiative and that of some educators to the “reliable replicable research” criterion for federal funding in literacy programs in the USA.

Some of the objections raised have been that ESTs should be ignored because this effort has been the work of a powerful lobby of biased individuals within the APA. Critics view qualitative rather than quantitative research as the appropriate approach to research into psychotherapy. To be considered a *well-established* treatment requires a treatment manual, and their use (it has been argued) leads to poor quality psychotherapy by diminishing personal judgement. Another perspective rejects ESTs because every client has different needs, and the use of single treatments based upon problem analysis cannot meet their needs. Some have asserted that there is no discernible difference in efficacy among the various forms of psychotherapy, thus ESTs are not relevant. Finally, some consider EST research as irrelevant to clinical practice as it originates in controlled clinical settings, and does not translate well to the real world. The degree to which documented treatments can be implemented in settings outside of those from which they originated are now being assessed in large scale effectiveness studies under the auspices of the National Institute of Mental Health (NIMH).

The criticisms emanating from some in the education community (Goodman, 1998; Weaver, 1988) to the drive towards research-based practice bear remarkable similarity. “It seems futile to try to demonstrate superiority of one teaching method over another by empirical research” (Weaver, 1988, p. 220). Clearly, the education profession has some distance to travel before reaching the stage of these other professions. Unless education faculties begin to change their philosophies of practice and provide teachers with the knowledge and attitudes consistent with empiricism, student-beneficial changes emanating from within the profession are unlikely (Lyon, 1999; Mather, Bos, & Babur, 2001).



What Does Empirical Research Contribute to the Failure-To-Learn Discussion?

The problems with basic skills begin early but become entrenched. Contrary to the hope that initial slow progress is merely a maturational lag to be redressed by a developmental spurt at some later date, typically, even relatively minor delays tend to become increasingly major over time (Stanovich, 1993). It appears that problems in basic educational skills, commencing early in an individual's life, can have snowballing negative effects, and the consequences are felt over a lifetime and in numerous domains of the individual's life. By what mechanism might this occur?

Sequence of Events

Several studies, such as that by Farkas and Beron (2001), have noted that students entering school with underdeveloped vocabularies are highly likely to fail in their basic skill development, yet they also found the effects could be countered by intensive early school-based assistance. Lyon (2001b) points out that such vocabulary deficits are more likely among disadvantaged children whose parents may be unable to provide them with the early literacy experiences that provide many other students with a flying start. These experiences include reading to children, but even earlier major differences in language were noted by Hart and Risley (1995) in the amount and quality of conversation between parents and children from professional, working class, and welfare families.

Arguably, the area of literacy development, and in particular, initial progress in reading, represents the fulcrum upon which students' educational progress balances. Of great concern is not only the continuing struggles of slow starters, but also the potentially widening gap between slow starters and fast starters. There is ample evidence (America Reads, 2001; Ceci, 1991) that students who do not make

good initial progress in learning to read find it increasingly difficult to ever master the process. Stanovich (1986, 1988b, 1993) outlined a model in which problems with early phonological skills lead to a downward spiral where all other school skills and even higher cognitive skills are eventually affected by slow reading development. This effect may not apply to all students who struggle and should not be confused with a view that it is a student's internal deficit that prevents their achievement of success.

Arguably, the area of literacy development, and in particular, initial progress in reading, represents the fulcrum upon which students' educational progress balances.

Stanovich (1986) used the label Matthew Effect (after the Gospel according to St. Matthew) to describe how, commencing at the initial stages of reading, the rich tend to become richer and the poor become poorer. Children with a clear understanding of the sound structure of spoken words (phonological awareness) are well placed to make sense of our alphabetic system. Their rapid development of spelling-to-sound correspondences allows the development of independent reading, high levels of practice, and the subsequent fluency that is critical for comprehension and enjoyment of reading.

Moats (1996) also argued that it is largely the initial insensitivity to word structure that undermines students' capacity to learn the code of written English without focussed instruction. This fundamental deficit consequently inhibits the learning of word meanings, reading comprehension, spelling, writ-

ten expression, and even the motivation to engage in subsequent language-based learning. In their study, Chapman, Tunmer, and Prochnow (2000) reported a negative self-concept among struggling readers arising within the first two years of their schooling.

The decline for children without good phonological awareness is exacerbated because they do not participate in reading as much as do their peers. Allington (1984), in a study of Grade 1 students, noted vastly different reading-exposure ratios. In his study, the number of words read per week ranged from 16 in the less skilled group to 1,933 in the upper group. Exacerbating this problem of differential exposure is the finding that struggling readers are often presented with reading materials that are too difficult for them (Stanovich, 1986). Slow, halting, error-prone reading of difficult material, unsurprisingly, militates against comprehension and leads to avoidance of reading activities and further disadvantage.

There is evidence that vocabulary development from about Year 3 is largely a function of volume of reading (Nagy, 1998; National Reading Panel, 2000; Stanovich, 1988b). Nagy and Anderson (1984) estimate that, in school, struggling readers may read around 100,000 words per year; whereas, for keen mid-elementary students, the figure may be closer to 10,000,000, that is, a 100 fold difference. For out of school reading, Fielding, Wilson, and Anderson (1986) suggested a similar ratio—indicating that children at the 10th percentile of reading ability in their Year 5 sample read about 50,000 words per year out of school, while those at the 90th percentile read about 4,500,000 words per year.

Language skills such as vocabulary knowledge, general knowledge, syntactic skills, and possibly even memory, rely heavily on reading for their development. These skills impinge on most

areas of the curriculum and hence what began as a narrow deficit becomes progressively larger, amplified by the negative motivational consequences of failure. A study by Juel (1988) reported a probability that a poor reader in Year 1 would still be so classified in Year 4 was 0.88, a finding supported by the Jorm, Share, MacLean, and Matthews (1984) longitudinal study. A performance difference in reading of 4 months in Year 1 had increased to 9 months in Year 2 in favour of the phonemically aware group (who had been matched in kindergarten on verbal IQ and sight word reading), over a low phonemic awareness group.

Lyon (1998) provides a sobering reminder of the importance of identifying and intervening early in a student's educational career.

However, we have also learned that if we delay intervention until nine-years-of-age (the time that most children with reading difficulties receive services), approximately 75% of the children will continue to have difficulties learning to read throughout high school. To be clear, while older children and adults can be taught to read, the time and expense of doing so is enormous. (para 34)

The notion that even intellectual development can be markedly influenced by literacy attainment is not new, but empirical research is increasingly supportive (Ceci, 1991; Fletcher, Francis, Rourke, Shaywitz, & Shaywitz, 1993; Stanovich, 1993). Further support from a longitudinal study in New Zealand is provided by Share, McGee, and Silva (1989), and Share and Silva (1987). They matched reading disabled and nondisabled groups on their vocabulary scores attained at age 3. At age 11, marked differences were noted in vocabulary, listening comprehension, and general language skills in favour of the nondisabled group. Using a hierar-

chical multiple regression, they demonstrated that the changes in IQ between ages 7 and 13 were predicted by changes in reading over that period. Growth in reading ability between the ages of 7 and 13 accounted for a significant proportion of the IQ score variability even after attributing variability due to IQ and reading ability at age 7.

The Hoskyn and Swanson (2000) meta-analysis also offers support for this perspective, noting the development of generalised cognitive deficits in older children with a history of sig-

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nificant reading problems. This apparent cognitive decline is thought to be consequent upon the absence of normal language stimulation (e.g., vocabulary) provided by facile and regular reading.

There are also other psychological consequences. Behavior problems in children with learning difficulties are about 3 times the average by the time they reach 8 years of age (Mash & Wolfe, 2002). Young boys, in particular, are at 3 times the risk of displaying high levels of depressed mood than the average (Maugban, 2003). By the time they reach high school, struggling readers report neither the confidence nor (in many cases) the desire to engage in reading. Their capacity to cope with the curriculum is compromised by poor literacy and a sense of hopelessness, anxiety, and low motivation (Peterson, Caverly, Nicholson, O'Neal, & Cusenbary, 2003).

Binder (1996) describes as "cumulative dysfluency" the gradual loss of contact with the curriculum that eventuates when students whose basic skill deficits should have been evident to astute observers in the early grades are left to their own devices, or enrolled in ineffectual programs. As complexity increases in secondary curriculum subjects such as science and history, some students reach a ceiling—the requisite advanced abilities in comprehension and reasoning failing to develop in concert with the demands. Lewis and Paik (2001) make a similar observation that adequate development of basic skills is essential if students are to find success at whatever the grade and in any school subject. Dr. Grover Whitehurst, Director of the Institute of Education Sciences, U.S. Department of Education (2003), noted, "Statistically, more children suffer long-term life-harm from problems in learning to read than from parental abuse, accidents, and all other childhood diseases and disorders combined" (para 1).

The implications of these findings are both disturbing and instructive. That there is increasing agreement about a specific locus and sequence of much inadequate reading progress is encouraging. Early intervention has the potential to preclude failure with its attendant personal and social cost. That an initially modular insensitivity or inexperience rapidly broadens into generalised language, intellectual, and motivational deficits is worrying for those attempting to alleviate the reading problems of students in middle-elementary school and beyond. In these cases, the consequences of the reading failure may remain even if the cause of the reading problem has been successfully addressed. For teachers trying to provide effective remedial literacy assistance to such pupils, the Matthew effect helps explain (a) why progress is often painfully slow, (b) a lack of significant change in general classroom performance consequent upon improved reading, (c) why only presenting a

dedicated phonemic awareness program with older children may not necessarily have a powerful impact.

Intervention Research

Many researchers (Adams, 1990; Ball, 1993; Ball & Blachman, 1991; Blachman, 1994; Bradley & Bryant, 1983; Byrne & Fielding-Barnsley, 1989; Catts, 1991; Cunningham, 1990; Felton, 1993; Foorman, Francis, Novy, & Liberman, 1991; Hatcher, Hulme, & Ellis, 1994; Juel, 1993; Simmons, 1992; Stanovich, 1986, 1988a, 1992, 1993; Torgesen, 1998; Torgesen, Wagner, & Rashotte, 1994) have noted the cost-beneficial effects of early intervention and stressed the importance of primary prevention for a variety of reasons—from pragmatism to social justice.

Although early intervention has long been regarded as logical—even programs as intensive as Head Start for disadvantaged children have not achieved the outcome success that was sought. The reasons may relate to the varying quality of educational programs offered, and to the difficulty in overcoming very early language disadvantage. More recent efforts may overcome some of the deficits of former initiatives as they are informed by up-to-date research.

In the Condition of Education (U.S. Department of Education, 2002a) report it was noted that there has been an increase in enrollment rates for 3- to 5-year-old children in childhood education programs, and there has also been a recognition that these programs, when well designed, can help compensate children for a language disadvantage in early childhood (Hart & Risley, 1995). This initiative involves increasing the educational elements in preschool programs that have formerly been considered an inappropriate forum for such activities. This emphasis shift has been endorsed by the wife of the incumbent President Bush in 2002 as she launched the first White House summit on early childhood education. The

intention was to elicit a national impetus to begin systematically teaching children important early learning skills, even before they are old enough to read. Such early intervention initiatives are crucial if the community expectations are to be met. Without such large-scale programs, the trajectory for students with early disadvantage is sadly predictable.

The value of empirical research since the beginning of Head Start has been in narrowing the focus of early intervention for reading—from a broad

Further, the evidence indicates the value of effective systematic instruction as a means of enhancing the learning of basic skills for all students, not only for those with disadvantage.

range of “readiness” activities to a specific emphasis on (a) phonemic awareness as a screening tool and a possible intervention focus, and (b) the critical role of systematic, explicit phonics in initial reading instruction (National Reading Panel, 2000). Further, the evidence indicates the value of effective systematic instruction as a means of enhancing the learning of basic skills for all students, not only for those with disadvantage.

Why Systematic Instruction Is Important

What lessons have we learned in recent times about how to substantially improve education rather than simply engage in the process of frequent change? Education has always been at the mercy of new ideas, but without broad-scale assessment and scientific data analysis it was not easy to detect whether any changes

enhance or inhibit student progress. Even the belief that education can influence a student’s life trajectory is often questioned (Jencks et al., 1972). The Coleman Report (Coleman et al., 1966) and other studies deflated many in the educational community when it was reported that what occurred in schools had little impact on student achievement. It was argued that the effects on educational outcomes of genetic inheritance, early childhood experiences, and subsequent family environment vastly outweigh school effects. That being the case, there would be little point in stressing a particular curriculum model over any other since the effects would be negligible compared to other variables outside a school’s control.

From the whole language perspective, student progress is largely self-determined, and thus teachers should act not as instructors, but as facilitators (Schickendanz, 1986; Smith, 1973; Weaver, 1988). Within this model, teachers are expected to react appropriately to student-initiated direction, rather than expect students to respond to a curriculum presented in a preplanned manner. One response to such a belief is to seek the provision of large sums of money to reduce class sizes so that teachers have more time to devote to each student in this manner. However, an evaluation (Jepsen & Rivkin, 2002) of a large scale initiative in California (costing over \$1 billion per year) indicated that a class reduction of 10 students per grade increased the number of students exceeding national median tests score by only about 4 percentage points in mathematics and 3 percentage points in reading. These modest gains disappeared when large numbers of inexperienced teachers were employed to achieve the requisite class-size reductions.

In contrast to these perspectives is a strong body of research exemplified in the Sanders and Rivers (1996) finding that students who were in classes with

effective teachers for 3 years in a row achieved 50% more learning than those in classes with poor teachers over the same period. A related finding was that children in 1st-year classes in which teachers lacked strong classroom management skills were at far greater risk of subsequent aggressive behavior.

Hanushek (1992) found that a very high quality teacher will achieve for students a learning gain of 1.5 grade level equivalents; whereas, a poor teacher may produce a gain of only 0.5 grade level equivalents. Thus, variation in the quality of teachers may produce a difference of up to a full year's learning growth. In Australia, Hill and Rowe (1996) observed that differences among classrooms within schools were greater than differences among schools. They pointed out that these differences between classrooms are important foci in improving school performance. What individual teachers do in those classes is pivotal for student learning.

Thus, a range of studies should direct our attention to classroom instructional processes as a major variable impinging on student achievement. This position is not new. During the 1970s Engelmann (1980) and Skillman, Garcia, and Witcher (1977) argued that a student's failure to learn is a consequence of a failure to teach effectively. Rosenshine (1979) used the expression direct instruction to describe a set of instructional variables relating teacher behavior and classroom organization to high levels of academic performance for elementary school students. High levels of achievement were related to a number of variables—among them being the amount of content covered and mastered, the amount of student academic engaged time, an academic focus rather than an affective emphasis, teacher-centered rather than student-centered classrooms, low cognitive level questions, a high success rate (above 80%), and immediate and academically oriented feedback to stu-

dents. These were features noted among teachers who achieved results above those of their peers. However, they did not indicate the proportion of the variance in student achievement attributable to instruction compared with that of other variables such as socioeconomic status.

Through further research and powerful statistical methods such as multilevel structural equation modelling, it has become apparent that teacher input including the financial aspects of teaching, for example, salaries, special

The major school influence on student achievement is now, clearly, classroom practice.

tax incentives, and higher degrees, have not been shown to strongly influence student achievement (Wenglinsky, 2000). The major school influence on student achievement is now, clearly, classroom practice. Wenglinsky (2003) reported a total standardized effect for teacher variables as 0.70, larger than the total standard effect of background measures (0.56). Based upon his analysis of empirical findings available since the 1970s, Jencks has altered his earlier view, and now argues for the potential of education to significantly reduce inequality in student achievement (Jencks & Phillips, 1998). Despite the evidence for this link, a great deal of policy continues to be devoted to issues outside of the classroom (Lyon & Fletcher, 2001; Wenglinsky, 2000).

A major concern with educational attainment is the gap between the affluent and the middle class, compared with those less advantaged—those from low-income and minority groups. Social objectives of equality cannot be achieved whilst there are glaring gaps in the attainments of dif-

ferent segments of a society. A generally accepted social value is that such groups should be assigned sufficient assistance to enable their full participation in the economic and social riches of the nation. This goal has resisted attainment over a long period, though in recent times there has been a concerted multilevel attack on inequality at the school and preschool levels. Such initiatives have been partly driven and informed by the failure to make much headway with the teaching models most prevalent during the 1990s.

In fact, the achievement levels of minority and low-income students declined during the 1990s in comparison with those of other students (Haycock, 2001; Office of Educational Research and Improvement, 2001). The reading performance of the nation's fourth graders may appear to have remained relatively stable across the last decade. However, whilst the 2000 national average reading scale score was similar to that of 1992, the reading of higher performing students improved and that of the lower performing students declined, thereby increasing the gulf between them (Office of Educational Research and Improvement, 2001).

Adding to the early disadvantage suffered by low-income and minority children is the finding that they are far more likely to be saddled with lower quality teachers (Wayne, 2002). This is especially unfortunate, as such children are more vulnerable to teaching differences than are students from higher socioeconomic status (Coleman, 1990; Goldhaber & Anthony, 2004). That is, minority children are more severely affected by poor teaching than are other children. In fact, they are significantly more influenced by a range of educational factors than are their more advantaged peers. These include smaller class size and the presence of full day programs (Yan & Lin, 2004).

Despite this depressing outcome, there are pockets of hope, emanating from schools and districts that address the issue of teaching effectiveness. A year long study in Boston noted that the best 30% of teachers evoked in their students 6 times the learning growth as did the lowest 30% of teachers (Boston Public Schools, 1998). Similar research in Tennessee and Texas highlighted the cumulative nature of these effects and their presence regardless of student background or attainment levels (Sanders & Rivers, 1996).

Of course, there were also other important elements in the comprehensive reform of schools serving disadvantaged students. According to the Report of the Education Trust (1999), successful schools ensured increased time was devoted to reading and math. This direction parallels that of Marks, McMillan, and Ainley (2004) who noted that while the effect of socioeconomic background on important educational outcomes is often strongly emphasized, its influence is considerably smaller than produced by early achievement in basic skills—literacy in particular. A recognition that many teachers have had little training in effective teaching practice ensured that funds were made available to enable carefully focused professional development. In order for school and district accountability, comprehensive monitoring of student progress and consequences for inadequate teaching were incorporated. The provision of additional school and home-based student support helps ensure that students at risk do not remain unassisted. These elements of effective school reform have their most powerful effect in ensuring effective practices are employed in the classroom.

An increasing number of schools (particularly those attempting to redress disadvantage) are taking advantage of the research into effective teaching practices and have adopted Direct Instruction programs.

When Thaddeus Lott became principal of Wesley Elementary, a school in an area of extreme disadvantage, only 18% of third graders were at or above grade level in reading comprehension on the Iowa Test of Basic Skills. Within 5 years that proportion had increased to 85%. In 1996, 100% of the third graders passed the Texas Assessment of Academic Skills in reading (Palmaffy, 1998).

In poverty-ridden City Springs Elementary School, literacy levels have improved from among the district's

A recognition that many teachers have had little training in effective teaching practice ensured that funds were made available to enable carefully focused professional development.

lowest to its fifth highest (Viadero, 2002b). In some of the most disadvantaged schools in Houston, Direct Instruction reading with pupils in kindergarten, first, and second grade, under the auspices of the Rodeo Institute for Teacher Excellence, have produced consistent and strongly accelerated growth throughout the program duration (Viadero, 2002b).

This decade could be the beginning of one of the most exciting periods in education history, as the sleeping giant of educational knowledge, ignored for so long, begins to influence education systems around the world. These effects may become evident at both a macro/policy level and at a micro/classroom level (these two have not always been attuned). There may develop increased funding and demand for higher quality research—more longitudinal studies, better designs, evaluations of larger scale implementations.

The evidence of subsequently improved outcomes for students in general, and for the disadvantaged in particular, may lead to a greatly increased attractiveness to both prospective teachers and budding researchers, thereby enhancing the quality of the education profession. Is all this an optimist's pipe dream? Let's hope not. *ADI*

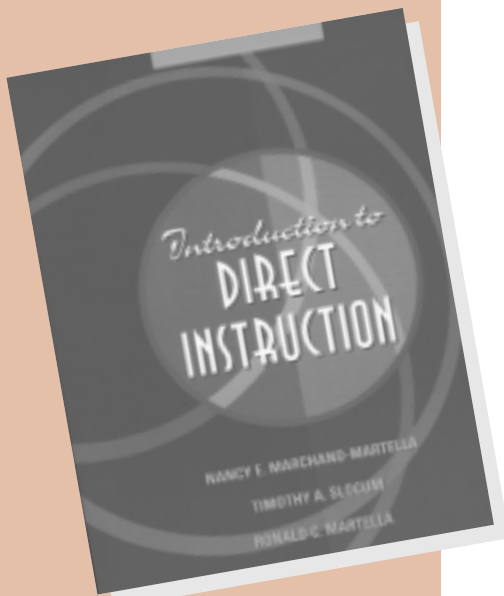
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SIEGFRIED ENGELMANN and DONALD STEELY

Preface to Inferred Functions of Performance and Learning

The objective of this book is to identify what the intelligent system that produces responses must do to perform as it does. The analysis starts with the performance variables that must be in place for the organism that does not learn, and then overlays the functions required for learning. At one end of the performance-learning spectrum is the simplest performance machine and the simplest organism that is incapable of learning. At the other end is the human with its amazing learning-performance capabilities. The analysis applies to all organisms and machines within this spectrum. The overriding rule for the analysis is that the task requirements are the same for any organism or machine that performs the task. Therefore, any organism or machine that does not meet all the requirements could not possibly perform the task. Bipedal walking presents a set of basic requirements for any organism that performs

it or any machine that performs it in the same manner the organisms do.

The book presents a series of *meta-blueprints*, which do not specify nuts and bolts or circuits, but rather articulate the steps, content or specific information, and logical operations required for the system to perform the specified tasks. In other words, by designing specific machinery based on the various meta-blueprints, it would be possible to design machines that perform in the same way that organisms perform and learn in the same way they learn.

The analysis is presented in four parts. Part I (chaps. 1–4) considers the performance system that does not learn. Part I also considers both the information and motivation functions needed for organisms that perform operations that are not learned. The product of Part I is a meta-blueprint that presents the various functions that are logically

required if the organism is to perform the observed behaviors.

Part II (chaps. 5–9) presents a meta-blueprint for basic learning—antecedent learning and response-strategy learning. The analysis frames the learning capabilities as an extension of the basic performance system. The analysis further identifies the kind of data and data transformations the system needs to perform generalizations of what is learned.

Part III (chaps. 10–13) presents a meta-blueprint for more complicated learning, such as the learning of highly unfamiliar content, secondary learning, and learning sets of related discriminations. This part specifies the functions for the ways learned material is classified by the system. The classification requirements derive from the need of the system to perform multiple dis-

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criminations involving a particular topic or specific set of examples.

Part IV (chaps. 14–18) deals with human learning and how it is related to that of other organisms. Part IV addresses issues of human volition, extensive classification of information, and processes such as voluntary control over thought and language use. The analysis addresses human development

and language learning. This part also considers implications of the analysis of learning for teaching, particularly teaching formal content, and it considers selected theoretical issues (e.g., the legitimacy of inferring inner processes from behavioral data and the implications of the analysis for constructing artificial intelligence entities designed to meet functional learning

and performance requirements identified for living organisms.)

This work should be of interest to various practitioners engaged in analyzing and creating behavior—ethologists, instructional designers, learning psychologists, physiologist-neurobiologists, and particularly designers of intelligent machines. *ADJ*

GEOFF COLVIN

Introduction to Managing the Cycle of Acting-Out Behavior in the Classroom

Acting-out behavior manifests itself in many different ways in classroom settings such as running away, physical aggression, verbal abuse, serious confrontations and threats, sexual acting-out, criminal behavior such as vandalism, defiance and non-compliance, tantrums and many different forms of anger. While these behaviors may differ in their form, settings and outcomes, there are several common factors. For example, some students may be angry towards their parents or particular teachers and skip school, vandalize shops in the neighborhood or become hostile towards their teachers and get suspended from school. Clearly, each of these behaviors is different, but they are all motivated by anger towards their parents or teachers. Other students may become depressed, lose their confidence and become sexually active, stop eating or give up on their schoolwork. Again the responses are very different yet each student is attempting to deal with depression, albeit in ways that are essentially self-destructive and very counterproductive.

In this book acting-out behavior will be used along with other descriptors

for students displaying serious problem behavior, especially explosive and escalating behavior. Other descriptors for these students include antisocial, behavior disordered and troubled students.

The book is divided into three sections. The purpose of the first section is to describe the development and detail of a conceptual model for acting-out behavior. An analysis of an acting-out behavioral cycle is presented followed by a description of a model comprised of seven clearly defined phases. Common behavioral features are delineated for each phase in the model which allows staff to develop a specific behavior profile for a student with acting-out behavior problems. Once this profile, or assessment, has been made staff is in a strong position to develop a comprehensive behavior plan to interrupt the cycle of acting-out behavior and to establish appropriate behavior.

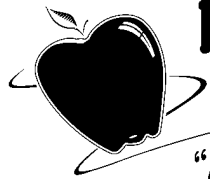
The second section, which constitutes the bulk of the book, is devoted to an explanation and description of many strategies for managing each of

the seven phases in the acting-out cycle. The strategies selected are taken from research and best practice procedures reported in the literature and practiced in the field. Since each phase represents a link in the behavioral chain, staff's effective management of the behaviors in the early phases of the behavior chain may preempt the later phases where the more serious behaviors occur. Emphasis is placed on teaching and prevention techniques in the early phases. In the latter phases, the approach is to stress safety, crisis management, re-entry and follow-up procedures.

In the third and final section, the procedures for managing the cycle of acting-out behavior are summarized followed by a case study. The case study is presented to illustrate the assessment features paired with strategies for each phase in the acting-out cycle.

The reader is referred to an Appendix section at the back of the book. This section contains all of the forms presented throughout the book. These forms may be reproduced or adapted for personal use in the classroom. *ADJ*

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There is a great deal of interest in Direct Instruction programs today, and along with that interest there is a high demand for *qualified* consultants. We are quite certain that there are many great DI trainers out there that we do not know about. To help gather and disseminate this information, ADI is establishing a database of Direct Instruction program consultants (trainers). This data will be distributed via an ADI-published directory, the ADI web site, and used for any telephone referrals calls that come to ADI.

In order to have some quality control, we have devised the following requirements to be listed as a Referenced DI Consultant:

1. You must have a current membership with ADI.
2. You must provide us with three letters of reference or recommendation. These letters can be from school personnel, SRA personnel, etc.
3. You must complete the survey below and on the next page.
4. Send ADI a \$25.00 fee to cover the costs of building and maintaining the database.

If you have any questions about this program, please contact Bryan Wickman at 1-800-995-2464.

ADI Direct Instruction Consultant/Coach Information Survey

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City _____

State/Province _____ Zip/Postal Code _____

Home Phone _____ Work Phone _____

Email Address _____

FAX _____

Please check the appropriate boxes.

Reading Mastery I-III (and Fast Cycle)

- Information Presentation (e.g., one-hour presentation to adoption committee)
- Coaching (do demonstration lessons in classrooms, watch teachers, and give feedback)
- Training (stand-up training groups of people to use programs)

continued on next page

Reading Mastery IV–VI

- Information Presentation
- Coaching
- Training

Corrective Reading, Comprehension A–C

- Information Presentation
- Coaching
- Training

Reasoning & Writing D–F

- Information Presentation
- Coaching
- Training

Corrective Reading, Decoding A–C

- Information Presentation
- Coaching
- Training

Reasoning & Writing A–C

- Information Presentation
- Coaching
- Training

Horizons A & B

- Information Presentation
- Coaching
- Training

Connecting Math Concepts A–C

- Information Presentation
- Coaching
- Training

Spelling Mastery A–F & Corrective Spelling Through Morphographs

- Information Presentation
- Coaching
- Training

Connecting Math Concepts D–F (and Bridge)

- Information Presentation
- Coaching
- Training

Expressive Writing I & II

- Information Presentation
- Coaching
- Training

DISTAR Language I & II

- Information Presentation
- Coaching
- Training

Please list the titles of any other Direct Instruction-related workshops or presentations you do, and attach brief descriptions of each (e.g., seatwork, a keynote-type of talk, supervision, training coaches, etc.).

Is there anyone you WILL NOT work for? (This information will remain confidential.) Any geographic area in which you WILL NOT work?

Please tell us as much as possible about your availability—or anticipated availability—for work as a Direct Instruction Consultant/Coach/Trainer/ “Information Presenter.” For example, do you teach full time? Can you work five days a month? Ten?

Do you have experience implementing one or more levels of one or more Direct Instruction programs throughout a school? Please tell us about that, if applicable.

Summer 2005 Direct Instruction Training Opportunities

The Association for Direct Instruction is pleased to announce the following intensive DI training conferences. These events will provide comprehensive training presented by some of the most skilled trainers in education. Plan now to attend one of these professional development conferences.

Save these dates:

8th Southeast Direct Instruction Conference and Institutes

June 21–24, 2005
Florida Mall Hotel
Orlando, Florida

4th Mountain States Direct Instruction Conference

July 11–13, 2005
Antlers Hilton
Colorado Springs, Colorado

31st National Direct Instruction Conference and Institutes

July 24–28, 2005
Eugene Hilton and
Conference Center
Eugene, Oregon

10th Midwest Direct Instruction Conference and Institutes

August 3–5, 2005
Holiday Inn Mart Plaza
Chicago, Illinois

20th Atlantic Coast Direct Instruction Conference and Institutes

August 8–10, 2005
Wyndham Baltimore Inner Harbor
Baltimore, Maryland

Everyone likes getting mail...

ADI maintains a listserv discussion group called DI. This free service allows you to send a message out to all subscribers to the list just by sending one message. By subscribing to the DI list, you will be able to participate in discussions of topics of interest to DI users around the world. There are currently 500+ subscribers. You will automatically receive in your email box all messages that are sent to the list. This is a great place to ask for technical assistance, opinions on curricula, and hear about successes and pitfalls related to DI.

To subscribe to the list, send the following message from your email account:

To: majordomo@lists.uoregon.edu

In the message portion of the email simply type:

subscribe di

(Don't add *Please* or any other words to your message. It will only cause errors. majordomo is a computer, not a person. No one reads your subscription request.)

You send your news and views out to the list subscribers, like this:

To: di@lists.uoregon.edu

Subject: *Whatever describes your topic.*

Message: *Whatever you want to say.*

The list is retro-moderated, which means that some messages may not be posted if they are inappropriate. For the most part inappropriate messages are ones that contain offensive language or are off-topic solicitations.



Videotapes on the Direct Instruction Model

ADI has an extensive collection of videos on Direct Instruction. These videos are categorized as informational, training, or motivational in nature. The informational tapes are either of historical interest or were produced to describe Direct Instruction. The training tapes have been designed to be either stand-alone training or used to supplement and reinforce live training. The motivational tapes are keynote presentations from past years of the National Direct Instruction Conference.

Informational Tapes

Where It All Started—45 minutes. Zig teaching kindergarten children for the Engelmann-Bereiter pre-school in the 60s. These minority children demonstrate mathematical understanding far beyond normal developmental expectations. This acceleration came through expert teaching from the man who is now regarded as the “Father of Direct Instruction,” Zig Engelmann. Price: \$10.00 (includes copying costs only).

Challenge of the 90s: Higher-Order thinking—45 minutes, 1990. Overview and rationale for Direct Instruction strategies. Includes home-video footage and Follow Through. Price: \$10.00 (includes copying costs only).

Follow Through: A Bridge to the Future—22 minutes, 1992. Direct Instruction Dissemination Center, Wesley Elementary School in Houston, Texas, demonstrates approach. Principal, Thaddeus Lott, and teachers are interviewed and classroom footage is shown. Created by Houston Independent School District in collaborative partnership with Project Follow Through. Price: \$10.00 (includes copying costs only).

Direct Instruction—black and white, 1 hour, 1978. Overview and rationale for Direct Instruction compiled by Haddox for University of Oregon College of Education from footage of Project Follow Through and Eugene Classrooms. Price: \$10.00 (includes copying costs only).

Training Tapes

The Elements of Effective Coaching—3 hours, 1998. Content in *The Elements of Effective Coaching* was developed by Ed Schaefer and Molly Blakely. The video includes scenarios showing 27 common teaching problems, with demonstrations of coaching interventions for each problem. A common intervention format is utilized in all scenarios. Print material that details each teaching problem and the rationale for correcting the problem is provided. This product should be used to supplement live DI coaching training and is ideal for Coaches, Teachers, Trainers. Price...\$395.00 Member Price...\$316.00

DITV—Reading Mastery 1, 2, 3 and Fast-Cycle Preservice and Inservice Training—The first tapes of the Level I and Level II series present intensive preservice training on basic Direct Instruction teaching techniques and classroom management strategies used in *Reading Mastery* and the equivalent lesson in *Fast-Cycle*. Rationale is explained. Critical techniques are presented and demonstrated. Participants are led through practical exercises. Classroom teaching demonstrations with students are shown. The remaining tapes are designed to be used during the school year as inservice training. The tapes are divided into segments, which present teaching techniques for a set of upcoming lessons. Level III training is presented on one videotape with the same features as described above. Each level of video training includes a print manual.

Reading Mastery I (10 Videotapes) \$150.00

Reading Mastery II (5 Videotapes) \$75.00

Reading Mastery III (1 Videotape) \$25.00

Combined package (*Reading Mastery I–III*) \$229.00

Corrective Reading: Decoding B1, B2, C—(2-tape set) 4 hours, 38 minutes + practice time. Pilot video training tape that includes an overview of the *Corrective* series, placement procedures, training and practice on each part of a decoding lesson, information on classroom management/reinforcement, and demonstration of lessons (off-camera responses). Price \$25.00.

Conference Keynotes

These videos are keynotes from the National Direct Instruction Conference in Eugene. These videos are professional quality, two-camera productions suitable for use in meetings and trainings.

Keynotes From the 2004 National DI Conference, July 2004, Eugene, Oregon

Conference attendees rated the keynotes from the 30th National Direct Instruction Conference and Institutes as one of the best features of the 2004 conference. Chris Doherty, Director of Reading First from the U.S. Office of Elementary and Secondary Education in Washington, DC, delivered a humorous, informative, and motivating presentation. Chris has been an advocate of Direct Instruction for many years. In his capacity with the federal government he has pushed for rules that insist on states following through with the mandate to use programs with a proven track record. The way he relates his role as a spouse and parent to his professional life would make this an ideal video for those both new to DI as well as veteran users. In the second opening keynote, Zig Engelmann outlines common misconceptions that teachers have about teaching and learning. Once made aware of common pitfalls, it is easier to avoid them, thereby increasing teacher effectiveness and student performance. Price: \$30.00

To the Top of the Mountain—Giving Kids the Education They Deserve—75 minutes. Milt Thompson, Principal of 21st Century Preparatory School in Racine, Wisconsin gives a very motivational presentation of his quest to dramatically change the lives of all children and give them the education they deserve. Starting with a clear vision of his goal, Thompson describes his journey that turned the lowest performing school in Kenosha, Wisconsin into a model of excellence. In his keynote, Senior Direct Instruction developer Zig Engelmann focuses on the four things you have to do to have an effective Direct Instruction implementation. These are: work hard, pay attention to detail, treat problems as information, and recognize that it takes time. He provides concrete examples of the ingredients that go into Direct Instruction implementations as well as an interesting historical perspective. Price: \$30.00

No Excuses in Portland Elementary, The Right Choice Isn't Always the Easiest, and Where Does the Buck Stop? 2 tapes, 1 hour, 30 minutes total. Ernest Smith is Principal of Portland Elementary in Portland, Arkansas. The February 2002 issue of *Reader's Digest* featured Portland Elementary in an article about schools that outperformed expectations. Smith gives huge credit to the implementation of DI as the key to his student's and teacher's success. In his opening remarks, Zig Engelmann gives a summary of the Project Follow Through results and how these results translate into current educational practices. Also included are Zig's closing remarks. Price: \$30.00

Lesson Learned...The Story of City Springs, Reaching for Effective Teaching, and Which Path to Success? 2 tapes, 2 hours total. In the fall of 2000 a documentary was aired on PBS showing the journey of City Springs Elementary in Baltimore from a place of hopelessness to a place of hope. The principal of City Springs, Bernice Whelchel, addressed the 2001 National DI Conference with an update on her school and delivered a truly inspiring keynote. She describes the determination of her staff and students to reach the excellence she knew they were capable of. Through this hard work City Springs went from being one of the 20 lowest schools in the Baltimore City Schools system to one of the top 20 schools. This keynote also includes a 10-minute video updating viewers on the progress at City Springs in the 2000–2001 school year. In the second keynote Zig Engelmann elaborates on the features of successful implementations such as City Springs. Also included are Zig's closing remarks. Price: \$30.00

Successful Schools...How We Do It—35 minutes. Eric Mahmoud, Co-founder and CEO of Seed Academy/Harvest Preparatory School in Minneapolis, Minnesota presented the lead keynote for the 1998 National Direct Instruction Conference. His talk was rated as one of the best features of the conference. Eric focused on the challenges of educating our inner city youth and the high expectations we must communicate to our children and teachers if we are to succeed in raising student performance in our schools. Also included on this video is a welcome by Siegfried Engelmann, Senior Author and Developer of Direct Instruction Programs. Price: \$15.00

Commitment to Children—Commitment to Excellence and How Did We Get Here...Where are We Going?—95 minutes. These keynotes bring two of the biggest names in Direct Instruction together. The first presentation is by Thaddeus Lott, Senior. Dr. Lott was principal at Wesley Elementary in Houston, Texas from 1974 until 1995. During that time he turned the school into one of the best in the nation, despite demographics that would predict failure. He is an inspiration to thousands across the country. The second presentation by Siegfried Engelmann continues on the theme that we know all we need to know about how to teach—we just need to get out there and do it. This tape also includes Engelmann's closing remarks. Price: \$30.00.

State of the Art & Science of Teaching and Higher Profile, Greater Risks—50 minutes. This tape is the opening addresses from the 1999 National Direct Instruction Conference at Eugene. In the first talk Steve Kukic, former Director of Special Education for the state of Utah, reflects on the trend towards using research based educational methods and research validated materials. In the second presentation, **Higher Profile, Greater Risks**, Siegfried Engelmann reflects on the past of Direct Instruction and what has to be done to ensure successful implementation of DI. Price: \$30.00

Fads, Fashions, & Follies—Linking Research to Practice—25 minutes. Dr. Kevin Feldman, Director of Reading and Early Intervention for the Sonoma County Office of Education in Santa Rosa, California presents on the need to apply research findings to educational practices. He supplies a definition of what research is and is not, with examples of each. His style is very entertaining and holds interest quite well. Price: \$15.00

Aren't You Special—25 minutes. Motivational talk by Linda Gibson, Principal at a school in Columbus, Ohio, successful with DI, in spite of minimal support. Keynote from 1997 National DI Conference. Price: \$15.00

continued on next page



Videotapes on the Direct Instruction Model...continued

Effective Teaching: It's in the Nature of the Task—25 minutes. Bob Stevens, expert in cooperative learning from Penn State University, describes how the type of task to be taught impacts the instructional delivery method. Keynote from 1997 National DI Conference. Price: \$15.00

Moving from Better to the Best—20 minutes. Closing keynote from the National DI Conference. Classic Zig Engelmann doing one of the many things he does well...motivating teaching professionals to go out into the field and work with kids in a sensible and sensitive manner, paying attention to the details of instruction, making sure that excellence instead of "pretty good" is the standard we strive for and other topics that have been the constant theme of his work over the years. Price \$15.00

One More Time—20 minutes. Closing from 1997 National DI Conference. One of Engelmann's best motivational talks. Good for those already using DI, this is sure to make them know what they are doing is the right choice for teachers, students, and our future. Price: \$15.00

An Evening of Tribute to Siegfried Engelmann—2.5 hours. On July 26, 1995, 400 of Zig Engelmann's friends, admirers, colleagues, and protégés assembled to pay tribute to the "Father of Direct Instruction." The Tribute tape features Carl Bereiter, Wes Becker, Barbara Bateman, Cookie Bruner, Doug Carnine, and Jean Osborn—the pioneers of Direct Instruction—and many other program authors, paying tribute to Zig. Price: \$25.00

Keynotes from 22nd National DI Conference—2 hours. Ed Schaefer speaks on "DI—What It Is and Why It Works," an excellent introductory talk on the efficiency of DI and the sensibility of research based programs. Doug Carnine's talk "Get it Straight, Do it Right, and Keep it Straight" is a call for people to do what they already know works, and not to abandon sensible approaches in favor of "innovations" that are recycled fads. Siegfried Engelmann delivers the closing "Words vs. Deeds" in his usual inspirational manner, with a plea to teachers not to get worn down by the weight of a system that at times does not reward excellence as it should. Price: \$25.00

Keynotes from the 1995 Conference—2 hours. Titles and speakers include: Anita Archer, Professor Emeritus, San Diego State University, speaking on "The Time Is Now" (An overview of key features of DI); Rob Horner, Professor, University of Oregon, speaking on "Effective Instruction for All Learners"; Zig Engelmann, Professor, University of Oregon, speaking on "Truth or Consequences." Price: \$25.00

Keynote Presentations from the 1994 20th Anniversary Conference—2 hours. Titles and speakers include: Jean Osborn, Associate Director for the Center for the Study of Reading, University of Illinois, speaking on "Direct Instruction: Past, Present & Future"; Sara Tarver, Professor, University of Wisconsin, Madison, speaking on "I Have a Dream That Someday We Will Teach All Children"; Zig Engelmann, Professor, University of Oregon, speaking on "So Who Needs Standards?" Price: \$25.00

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ADI *Books Price List*

The Association for Direct Instruction distributes the following Direct Instruction materials. Members of ADI receive a 20% discount on these materials. To join ADI and take advantage of this discount, simply fill out the form and include your annual dues with your order.

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