# Direct Instruction NEWS

The Birth of a New Voice for Excellence in Education

By Doug Carnine
   Wes Becker

This newsletter represents the first step in the formation of the Association for Direct Instruction. The Association will be devoted to dissemination of training, program and research information on the systematic application of learning technology to the problems facing education — a technology that has been called Direct Instruction. Direct Instruction is concerned with the precise application and knowledge about teaching and learning to effective schooling. It is concerned with the ways teachers behave, the curriculum they use, the use of time and other resources, the role of administrators — all of the factors that influence school effectiveness. Another aspect of Direct Instruction is a dedication to excellence in education through the application of knowledge. Knowledge must become embodied in the lives of students and staffs, not just in rhetoric about what can or should happen in schools.

Although many educators do not agree on what school effectiveness means or how it can or should be achieved, an increasing number of educators in the U.S. and other countries are researching and applying Direct Instruction. This newsletter is a response to the need for people to share ideas and information and let each other know that we're not alone — others share the same values and methods.

Two years ago, the Australian Association for Direct Instruction was formed at
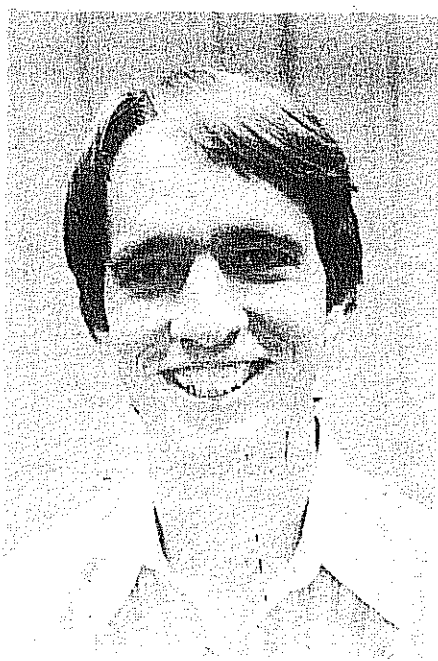
Doug Carnine

the urging of Alex and Robyn Maggs. The association has sponsored a number of training conferences and has been able to get news about applications into the press so that the association has had an impact on decisions by teachers and parents. Joe Moore is currently president of that organization.

As of six months ago, Alex Maggs and his students have conducted some 22 studies of the effectiveness of various Direct Instruction programs. A later issue

of **DI News** will highlight this work. Alex and Wes Becker have plans for a **Journal of Direct Instruction** when a financial base for it can be established. This newsletter is one of the precurors to that journal.

Recently, a Direct Instruction interest group was formed within the Association for Behavior Analysis (ABA) by Stan Paine. This group sponsored a half-day symposium at the ABA national conference in Milwaukee in May. Zig Engelmann,

Wes Becker

Barak Rosenshine and others were present.

There is a broad interest in Direct Instruction in Canada, a growing interest in England and South Africa and increasing pressure for applications in Latin America and underdeveloped countries in Africa. With this growth comes a need for better communication systems for a constantly growing technology.

As part of the initial efforts of the Association for Direct Instruction, two books are planned for publication in 1982. The first, **Theory of Instruction** by Zig Engelmann and Doug Carnine, lays out the logical principles underlying the design of DI programs. The second, **Research on Direct Instruction**, edited by Wes Becker, summarizes 10 years of research findings using Direct Instruction programs.

To get the Association off the ground, to help finance this newsletter and future journal, we are soliciting contributions to the Association (see back page for information). Teachers, parents, administrators and professors are all invited to join this effort. In this first newsletter, we address issues of dissemination and implementation, research summaries, recognize effective programs, describe new programs and reference important publications. Readers are invited to submit articles for subsequent issues. Send your contributions to:

Direct Instruction After Follow Through—Is There Life After Death?

By Stan Paine
President of the Association for
Direct Instruction

(Author's Note: This article was written in the spring, while Follow Through funding was still in question. Since the article was completed, Follow Through has been re-funded for the 1981-82 school year. And, for the first time, funding was based, at least in part, on the outcomes which various sites produced. Despite this positive note, I stand by my position that we cannot rely on Follow Through to support the Direct Instruction movement indefinitely. The scope of DI is simply bigger that Follow Through, as those of us working outside of Follow Through know very well. It is the intent of the Association for Direct Instruction to address this issue.)

What are the implications of the recent rise and the (apparent) forthcoming fall of Project Follow Through for Direct Instruction? The origins of Follow Through and Direct Instruction can be traced to Project Head Start. Head Start arose out of this country's "War on Poverty" in the 1960s. It was intended to give economi-

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cally (and educationally) disadvantaged children a "head start" in school through a preschool experience which (it was hoped) would allow them to compete on

a more equal footing with the "more advantaged" age-mates when they entered the primary grades.

In a few small studies, Head Start succeeded in improving children's school-related skills in preschool, but these effects were over-shadowed in the primary grades when the "more advantaged" students progressed at a faster rate, leaving the low income children once again at an educational disadvantage. Thus, Project Follow Through was created to "follow through" on the disadvantaged children's "head start" in school.

Direct Instruction has its roots in the Bereiter-Engelmann preschool for disadvantaged children (Bereiter & Engelmann, 1966). It emerged as a significant new approach to elementary education with the creation of Follow Through in 1968 and rose to prominence (at least in some circles) with the release in 1976 and 1977 of the Abt Reports—the results of the National Evaluation of Follow

Through which showed that the Direct Instruction Model outperformed all other models in Follow Through. Now, less than four years later, Direct Instruction as a visible, exemplary, Follow Through model is threatened with virtual extinction.

The fading of Follow Through clearly jeopardizes the status of Direct Instruction. To avoid a potential "demise by association" and to preserve Direct Instruction as a model of excellence for educational services, I believe the following steps must be taken:

• We must broaden our definition of Direct Instruction to integrate available knowledge and validated techniques compatible with our philosophy, our assumptions, and our goals.
• We must establish an identity for Direct Instruction independent of Follow Through.

The DI Philosophy

● THERE IS A VIABLE TECHNOLOGY OF TEACHING THAT IS NOT BEING USED.
● TEACHERS ARE RESPONSIBLE FOR CHILDREN'S LEARNING.
● EVERY CHILD CAN BE TAUGHT.

Bylaws of the Association for Direct Instruction

ARTICLE I: NAME

The name of the corporation shall be The Association for Direct Instruction.

ARTICLE II: PURPOSE

The corporation shall have the following purposes:

1. To encourage, promote, and engage in research aimed at improving educational methods.

2. To encourage, foster, and promote the dissemination of knowledge and skills arising from research on teaching with the goal of improving the education of children and adults.

3. To sponsor training and informational workshops and conferences for parents, teachers, and others interested in education that will bring to the field of education the latest in effective knowledge and procedures.

4. To publish and distribute newsletters, journals, books, and related materials that are in keeping with purposes 2 and 3 above.

5. Any other lawful and related purpose within the scope of §501(c)(3) of the Internal Revenue Code.

ARTICLE III: OFFICE

The principle office of the corporation shall be at 711 Spyglass, Eugene, Oregon 97401, or at such other location as the Board shall, from time to time, determine.

ARTICLE IV: FISCAL YEAR

The fiscal year of the corporation shall be from January 1 to December 31.

ARTICLE V: MEMBERS

1. *Eligibility and Admission*. Any individual who subscribes to the purposes and basic policies of the corporation can become a member provided they:

(a) Make written application for membership with the Secretary of the corporation, and upon acceptance of membership sign their name in the membership book along with their current address. The members shall promptly notify the Secretary of any change of address.

(b) Agree to abide by the terms and conditions of these bylaws, and act in accordance with decisions made by the Board of Directors.

(c) Pay the membership fee, as set from time to time by the Board of Directors.

2. *Rights of Members*: Each member shall have the right to one vote on matters submitted to a vote of the membership except to the extent voting rights are limited or denied by these bylaws or the Articles of Incorporation. Members shall vote to elect the Board of Directors, amend the Articles of Incorporation and other matters as set forth in the Oregon Revised Statutes and these bylaws.

No dividends or earnings of the corporation shall be payable to members, except that reasonable compensation and expenses may be paid to members who contribute services or incur authorized expensesd on behalf of the corporation, nor shall a member be entitled to receive any assets of the corporation which remain after payment of the corporate liabilities and expenses.

3. *Termination of membership*. Membership may be terminated by the occurrence of any of the following conditions:

(a) The member resigns from the corporation by delivering a written resignation to the chairperson of the board or the secretary of the corporation.

(b) The member fails to pay any charge, due or assessment or to obtain a waiver of such charge, due or assessment after receiving written notice from an officer or agent of the corporation stating the nature of the assessment, the date it became due, and the fact that membership shall automatically terminate if the charge, due or assessment is not paid by a date selected by the Board of Directors, which date shall be no more than thirty days from the date such notice is sent.

(c) The member fails to comply with any term or condition of membership as provided in the Articles of Incorporation or bylaws of the corporation after receiving written notice from the corporation of the failure in performance and afforded a thirty day opportunity to cure the defect in performance if it is of such a nature that could reasonably be cured. The Board of Directors shall authorize the corporation to send the notice described herein, which notice shall state that unless the defect is cured, membership shall terminate on that date without any further action of the Board unless the member submits evidence of remedial action to the Secretary prior to that date. If the defect is one which cannot reasonably be cured, the notice shall state the date that membership will be deemed terminated.

ARTICLE VI: MEMBERSHIP MEETINGS

1. *Annual Meeting*: The annual meeting of the members shall be held during the third week of August. The day and time of the meeting shall be fixed to coordinate with the Eugene Direct Instruction conference if possible, at the principal office of the corporation, or at such other day, time and place as fixed by the board of directors after providing members with notice mailed at least thirty days prior to the meeting.

The purpose of the annual meeting shall be to elect new directors, receive a financial report and consider any other matters properly brought before the meeting. At the first annual meeting a full staff of seven directors will be presented.

2. *Special Meetings*: Special meetings of the members may be called from time to time by the board of directors or upon the petition of ten percent (10%) or more members of the corporation. In the case of a special meeting, notice shall be required as set forth in §3 below. The business of the special meetings shall be limited to those matters set forth in the notice.

3. *Notice*: Written notice of membership meetings shall be delivered by hand or by mail to all members currently registered in the records of the corporation. Such notice shall be given not less than fourteen nor more than forty days in advance of the meeting and shall state the time, place and purpose of the meeting. It shall be the responsibility of the individual member to provide the secretary with a correct mailing address, and failure to so provide shall operate as a waiver of right to notice.

4. *Quorum*: A quorum of members present at a meeting to transact the business of that meeting shall consist of the number of the members present in attendance at that meeting.

5. *Voting*: All members are entitled to one vote. Proxies shall not be allowed, but mail ballots may be provided. The number of votes cast by members at a membership meeting required for the adoption of any matter coming before the membership shall be a majority.

ARTICLE VII: THE BOARD OF DIRECTORS

1. *Election of Directors*: The business affairs of the corporation shall be managed by a board of directors, who shall be elected by the membership present at the annual membership meeting as set forth in Article VI, §1. The term of office shall be five years, and shall be staggered so that two new directors are elected after three years, two after

four years, and three after five years of service. There shall be no limit on the number of consecutive terms a director may serve.

2. *Number of Directors*: The number of directors shall be seven.

3. *Resignation and Removal of Directors*: A director may be removed from office, with or without cause, only by a vote of membership at a special meeting called after proper notice.

A director may resign by submitting written notice to the Secretary of the corporation.

4. *Vacancies*: Vacancies arising from time to time in the board of directors may be filled by an act of the directors at any meeting of the board where a quorum is present, even if the number of directors present is less than the number required for a quorum.

5. *Powers*: The board of directors shall be empowered to manage the activities and affairs of the corporation and may perform whatever acts appear to be reasonably necessary to that end. Such power includes, but is not limited to, creating committees and appointing coordinators for them, entering into contracts, purchasing, leasing or otherwise acquiring real and personal property, borrowing money, hiring employees, investing corporate funds, promulgating and enforcing rules for participation, electing corporate officers, and amending the bylaws.

6. *Conflict of Interest*: When a matter to be decided by the Board of Directors involves a director's interest apart from their services as director, the director shall fully disclose their interest in the proposed transaction. The director shall not be allowed to vote on the matter and shall not be counted for purposes of a quorum.

7. *Committees*: The board may establish committees to perform those duties determined to be necessary and proper to the effective, lawful and beneficial operation of the corporation. At least one director shall be appointed to each committee formed.

ARTICLE VIII: MEETINGS OF THE BOARD OF DIRECTORS

1. *Annual meeting*: The annual meeting of the Board shall be held immediately following the annual membership meeting, for which no additional notices besides these bylaws shall be required. The Board may change the time and place for the annual meeting by giving notice as provided below.

2. *Notice*: Written notice of the day, time and place of meetings of the Board shall be disclosed by hand or by mail by the Secretary or their designate no less than twenty nor more than thirty days prior to the date set for such meeting. It is the responsibility of each director to provide the Secretary with a correct mailing address.

Attendance of a director at any meeting of the board shall constitute a waiver of notice. Telephone notice shall be allowed provided the secretary send written confirmation of such notice within seven days.

3. *Special meetings of the Board*: Special meetings of the Board may be called for any corporate purpose by the President of the corporation; three of the Directors, or 10 percent of the membership. Upon petition signed by the required number of directors or members, the Secretary shall call the meeting.

4. *Quorum*: The presence of a majority of the directors shall constitute a quorum for the transaction of business.

If, in the course of a meeting, members leave so that a quorum no longer exists, the business portion of the meeting shall be adjourned and a time and place set for its resumption.

Voting: The affirmative vote of a majority of the directors present at a meeting at which a quorum is present shall be an act of the Board.

5. *Action Without a Meeting*: Any action required or permitted to be taken by the Board of Directors may be taken without a meeting if all the directors shall individually or collectively consent in writing to the action. The written consent or consents shall be filed with the minutes of the proceedings of the Board, and the action taken shall have the same force and effect as an unanimous vote of the directors.

6. *Compensation*. The directors of the corporation shall serve as such without salary, but the Board of Directors may authorize payment by the corporation of the reasonable expenses incurred by

the directors in the performance of their duties and of reasonable compensation for services rendered by any directors.

ARTICLE IX: OFFICERS

1. *Officers*: Officers of the corporation shall be a president, vice-president, secretary, and treasurer. The Board may, from time to time, designate additional officers.

2. *Election and Term*: The officers are to be elected by the Board of Directors at the annual meeting of the Board or in the event that an office becomes vacant at any other time during the year. There shall be no requirement that an officer be a director. The officer shall serve until the next annual meeting of the Board or until his or her successor is elected and qualified.

3. *Resignation and Removal*: An officer may resign by submitting written notice to the Secretary or to a member of the Board of Directors.

An officer may be removed at any time, with or without cause, by a vote of the Board of Directors. Prior written notice of not less than seven days shall be given to the officer stating their proposed removal and the officer shall be given an opportunity to be heard on the issue.

4. *President*: The President shall be the chief executive officer of the corporation and, when present, shall preside at all meetings of the Board of Directors and the members. The President should have the qualifications of a researcher, and be knowledgeable about behavioral research, educational technology, the evaluation of educational programs, and teaching. The President should also have demonstrated leadership and administrative skills. The President shall have responsibility for routine management decisions and execution of Board policy. The President may sign with the Treasurer deeds, mortgages, bonds, contracts, or other instruments which the Board of Directors has authorized to be executed; and in general, shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors.

5. *Vice-President*: In the absence of the President, the Vice-President shall perform the duties of the President, and, when so acting, shall have all the powers of, and be subject to all the restrictions upon, the President. The Vice-President shall perform such other duties as from time to time may be assigned by the Board of Directors or by the President.

6. *Secretary*: The Secretary shall be entrusted with all corporate records and minute books, and shall keep the minutes of the Board of Directors and the membership meetings, see that all notices are duly given in accordance with the By-Laws or as required by law, and in general perform the duties of the Office of Secretary and such other duties as may be assigned by the President or the Board of Directors.

7. *Treasurer*: The Treasurer shall be entrusted with all corporate financial records, funds, and securities and shall cause to be deposited all funds of the corporation in such bank or banks, trust companies, or with such firm or firms doing a banking business, as the Directors may designate, and cause to be kept accurate books of account of the corporation's transactions which shall be the property of the corporation, and, together with all property in his/her possession, shall be subject at all times to inspection and control of the Board of Directors. All checks, drafts, notes, or other obligations for the payment of money shall be signed by the Treasurer, and the President or other officer appointed by the Board of Directors. The Treasurer shall issue to all Directors a quarterly financial statement consisting of a balance sheet and an operating statement within 30 days after the close of each quarter, and an annual statement within 60 days after the close of each calendar year.

8. *Salaries*. The salaries of officers of the corporation shall be determined by the Board of Directors, subject to any limitation by federal, state or local law.

9. *Records*: There shall be maintained at the principle office of the corporation all financial books and records of account, all minutes of the Board of Directors' meetings, membership meetings, and the Executive Committee and other committee meetings of the corporation, the list of members and copies of all other material corporate records, books, documents and contracts. All such books, records, minutes, lists, documents and contracts shall be made available for inspection at any reasonable time during usual business hours, (i) by any member of the corporation or duly authorized

representative thereof, for any lawful and proper purpose, and (ii) by any directors of the corporation or duly authorized representative thereof, for any lawful purpose. Upon leaving office, each officer or agent of the corporation shall turn to their successor or the President, in good order, such corporate monies, books, records, minutes, lists, documents, contracts or other property of the corporation as have been in the custody of such officer or agent during their term of office.

ARTICLE X: DEPOSITS, CHECKS, LOANS AND CONTRACTS

1. *Deposits.* All funds of the corporation not otherwise employed shall be deposited in such banks, trust companies, or other reliable depositories as the Board of Directors from time to time may determine.

2. *Checks, etc.* All checks, drafts, endorsements, notes and evidences of indebtedness of the corporation shall be signed by such officers or agents of the corporation and in such manner as the Board of Directors from time to time may determine. Endorsements for deposits to the credit of the corporation shall be made in such a manner as the Board of Directors from time to time may determine.

3. *Loans.* No loans or advances shall be contracted on behalf of the corporation, and no note or other evidence of indebtedness shall be issued in its name, unless and except as authorized by the Board of Directors. Any such authorization shall relate to specific transactions, and may include authorization to pledge, as security for loans or advances authorized, any and all securities and other personal property at any time held by the corporation.

4. *Contracts.* The President or any other officer specifically authorized by the Board of Directors may, in the name of and on behalf of the corporation, enter into those contracts or execute and deliver those instruments that are specifically authorized by the Board of Directors. Without the express and specific authorization of the Board of Directors, no officer or other agent of the corporation may enter into any contract or execute and deliver any instrument in the name of and on behalf of the corporation.

ARTICLE XI: INDEMNIFICATION OF OFFICERS AND DIRECTORS

1. *Compensation of Directors and Officers.* The directors of the corporation shall serve as such without salary, but the Board of Directors may authorize the payment by the corporation of the reasonable expenses incurred by the directors in the performance of their duties and of reasonable compensation for special services rendered by any director. The Board of Directors shall fix the salary or other compensation of the officers or other agents of the corporation. Except as provided in this section, no director or officer of the corporation shall receive, directly or indirectly, any salary, compensation or gift from the corporation.

2. *Contracts with Directors or Officers:* No director or officer of the corporation shall be interested, directly or indirectly in any contract relating to the operations conducted by it, nor in any contract for furnishing services or supplies to it, unless; (a) such contract shall be authorized by an absolute majority of directors present and voting at a meeting at which the presence of such director is not necessary to constitute a quorum and the vote of such director is not necessary for such authorization, and (b) the facts and nature of such interest shall have been fully disclosed or shown to the members of the Board of Directors present at the meeting at which such contract is to be authorized.

3. *Loans to Directors and Officers:* No loans shall be made by the corporation to its directors. The directors of the corporation who vote for or assent to the making of a loan to a director or officer of the corporation, and any officer or director participating in the making of such a loan, shall be jointly and severally liable to the corporation for the amount of such loan until the payment thereof.

ARTICLE XI

These bylaws may be amended from time to time by the membership at a duly held meeting called after notice which includes a brief summary of the proposed bylaw change and the name of the person offering the amendment. The affirmative vote of two thirds or more of the members voting shall be required for amendment.
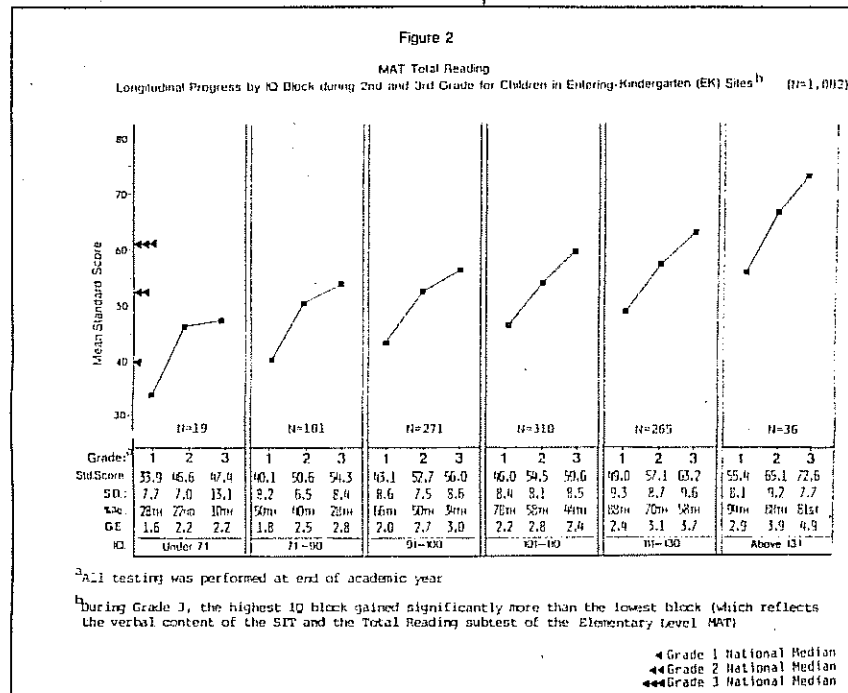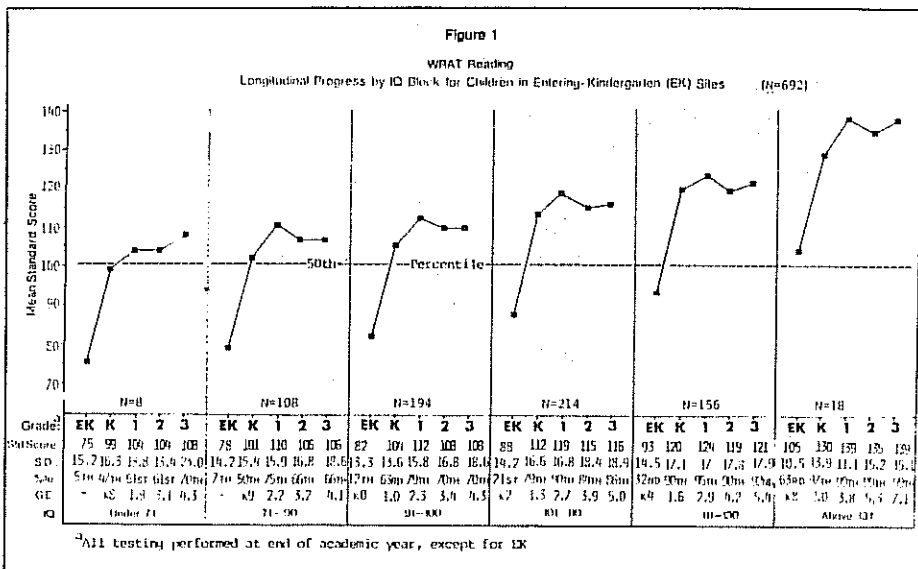
WHEREFORE these bylaws were adopted by the required vote of the Board of Directors of The Association for Direct Instruction at its meeting held on the 9th day of June, 1981, which meeting was held after proper notice and with a quorum present.

Does the IQ Tell You Who Can Learn More?

By Wes Becker

The fiction that IQ measures learning rate has haunted education for many years. It is derived from the high correlation (.70) between IQ and most norm-referenced measures of school achievement. While this correlation is not in doubt, its implications for "Who can be taught what?" are suspect.
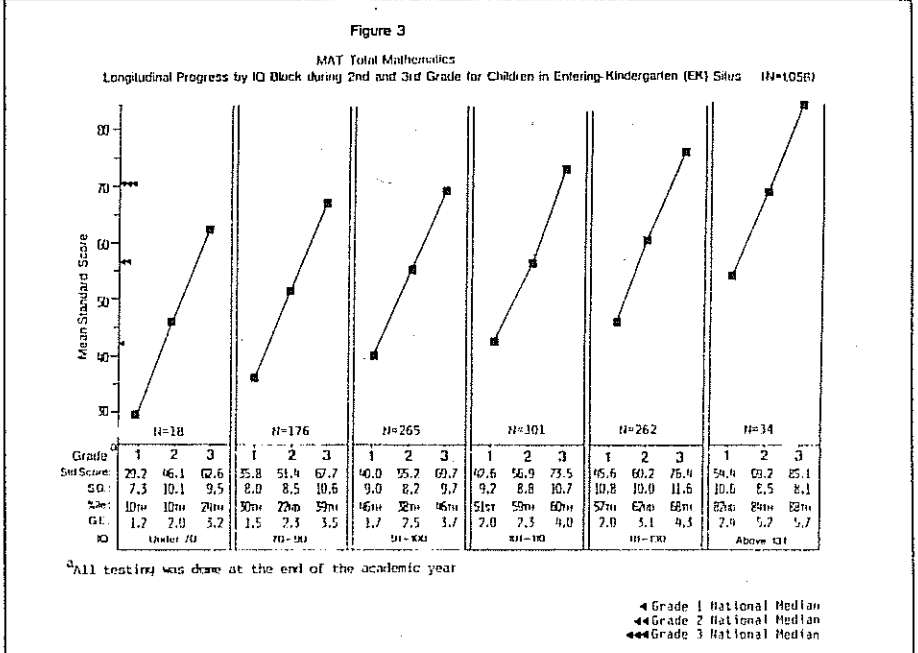
John Anderson of the University of Minnesota first confronted the issue of IQ and learning rate in 1939, when he noted that while IQ does relate to achievement level (probably because it is simply a more generalized measure of current achievement *level*) the correlations between IQ and year-to-year gains were very small or non-existent. Experimental studies of learning and IQ level have supported Anderson's position (see Cronbach, *Essentials of Psychological Testing,*

Figure 1
WRAT Reading
Longitudinal Progress by IQ Block for Children in Entering-Kindergarten (EK) Sites   (N=692)

Figure 2
MAT Total Reading
Longitudinal Progress by IQ Block during 2nd and 3rd Grade for Children in Entering-Kindergarten (EK) Sites [b]   (n=1,012)

[a] All testing was performed at end of academic year.
[b] During Grade 3, the highest IQ block gained significantly more than the lowest block (which reflects the verbal content of the SIT and the Total Reading subtest of the Elementary Level MAT)

◄ Grade 1 National Median
◄◄ Grade 2 National Median
◄◄◄ Grade 3 National Median

for a summary). In one study of 5-year-old Down's Syndrome children (IQs in the 30's) and children of professors (IQs in the 130's), Linda Meyers (University of Illinois) found that with adequate motivation and use of novel concepts, both groups took the same amount of time (22 minutes) to master five concepts. Also, retention was equivalent a week later. Alex Maggs (Macquarie University, Australia) showed that severely retarded children gained in mental age on the Stanford Binet at a nearly normal rate (22.5 months in 24 months' time) when taught *Distar Language I* one hour a day. The control group, taught with the Peabody Language Program and teacher-prepared materials, gained only 7.5 months in mental age in 24 months.

The strongest data supporting the non-relationship of IQ and learning rate comes from the Direct Instruction Follow Through Model study. In a report presented at the 1981 Convention) of the American Educational Research Association, Gersten, Heiry, Becker, and White found almost no contribution of IQ to learning rates. Figures 1 to 3 show the relation of Slosson IQ scores (a short-form individual test like the Binet) at entry to kindergarten to gains on the Wide Range (WRAT) and Metropolitan (MAT) Achievement Tests for Reading, and the MAT for Math. The WRAT shows age-normed standard scores (mean=100; standard deviation =15) that remain the

other). For the most part, the gains for different IQ levels are nearly identical. (For a sample of more than 1,300 children who started in first grade, the results are nearly identical.) There is a slight contribution of IQ to gain on the MAT Reading (Comprehension) from the end of second to the end of third grade, but otherwise there is no relationship. This latter effect can be understood as due to the end-of-third-grade-MAT Reading test being based on an uncontrolled adult vocabulary. IQ is strongly influenced by one's vocabulary. The first and second grade tests are based on controlled vocabularies found in basal readers. Thus, even the slightest relationship found can be explained in terms of differences in home backgrounds (the opportunity to learn language) rather than in terms of inherent differences in children's ability to learn. This does not mean that heredity does not make substantial contributions to individual differences in learning; it only

Figure 3
MAT Total Mathematics
Longitudinal Progress by IQ Block during 2nd and 3rd Grade for Children in Entering-Kindergarten (EK) Sites   (N=1056)

[a] All testing was done at the end of the academic year

◄ Grade 1 National Median
◄◄ Grade 2 National Median
◄◄◄ Grade 3 National Median

same from year-to-year if the students gain one year each year of instruction. The fact that the scores increase implies more than a year's gain per year was made in Direct Instruction Follow Through. The MAT scores are expanded standard scores which increase each year about 10 points on the average. If there is no relation of IQ to achievement gains, the slopes of the curves should remain the same across IQ blocks (be parallel to each

means that if there is a contribution, the IQ test does not reflect it.

The findings strongly suggest that the answer to "Who can learn what?" lies in trying the best available instruction and gearing it to individuals' entry skills. We do not assume that some children are poorer learners and therefore teach them less. We must assume that all children are competent learners and teach them competently.

Direct Instruction in Kalamazoo—A History

By Ed Huth and Mike Vreeland

In the past, the Kalamazoo, Michigan area was better known for its celery, wine, and shopping malls, but it was never described as the "Eugene of the Midwest."

In the last decade, though, there has been a "direct" connection between Eugene, Oregon and Kalamazoo. This connection has made Kalamazoo one of the "hotbeds" of Direct Instruction in the U.S., not only in the implementation of Direct Instruction programs, but in the dissemination of Direct Instruction theory.

A history of the growth of Direct Instruction in Kalamazoo follows.

From 1970-1975, many *Distar* programs were sold in the area, but because of a lack of inservice training and appropriate supervision, few teachers were successful and many discontinued using these programs.

A few teachers in the area started to use the early drafts of the *Corrective Reading Program*, but there was little data collected or disseminated.

Dr. Galen Alessi, the director of the School Psychology Program in the Psychology Department at Western Michigan University in Kalamazoo, had some conversations with Siegfried Engelmann and started to incorporate Direct Instruction into his classes (using *Preventing Failure in the Primary Grades* and *Teaching 2: Cognitive Learning and Instruction*).

In 1976, Carolyn Gillespie, Wendy Leys, Leslie Zoref, Mike Masters, and Paul Knight, all from Kalamazoo, attended the 2nd Annual Direct Instruction Conference in Eugene (the first to do so from this area).

Some of these people brought back *Corrective Reading* materials to use in the tutoring program sponsored by the Western Michigan University Psychology Department.

Karen Alessi, at that time a Teacher Consultant for Kalamazoo Public Schools, ran the first really successful *Corrective Reading* group in the area's public schools and collected data which were later used in implementing other Direct Instruction programs.

In 1977, approximately 25 people from Kalamazoo attended the Direct Instruction conference in Eugene.

Many of these people, including Karen Alessi, Linda Campbell, Wendy Leys, and the authors, started to implement Direct Instruction programs (mostly *Corrective Reading*) in Kalamazoo and surrounding school districts. Most of these programs have continued to be successful because of the training techniques used and the supervision provided.

In 1978, Kalamazoo hosted its first Direct Instruction conference. Zig Engelmann and Wes Becker each spoke for one-half day. Carol Mormitsu did a session on supervision and was a *great* help to the other trainers. Other sessions offered included the new *Corrective Reading* decoding and comprehension programs, Level I of all the Distar programs, Morphographic Spelling, Classroom Management, and Teaching Computational Skills in Mathematics. The trainers included the previously mentioned people plus Laurie Rudolph, Ellen Vreeland, Pat Steinert, Jane Howard, Dave Fossum, Casey Maddox, Larry Fine, Karen and Galen Alessi, Linda Campbell, and Wendy Leys.

The Kalamazoo Direct Instruction conference has been held each year since 1978.

Corrective Reading and *Morphographic Spelling* (including *Spelling Mastery*) have become widely used in many upper elementary and junior high school special education classes.

Corrective Reading and *Distar Reading* are now being used as alternative programs to the regular basal programs in some schools.

Some schools have adopted the Direct Instruction spelling programs as their regular educational spelling program. (Fred Stull, Kristi Durant, and Curly Howard have been very successful in implementing these programs in their schools.)

Croydan Avenue School, which houses the area's severely mentally impaired program has been using Engelmann's program for low performers and a slightly modified *Distar Language I* program very successfully. Paul Knight and Peter Lenz were responsible for much of this.

At Western Michigan University, the Psychology Department has sponsored a tutoring program and a preschool which have had great success using Direct Instruction programs in recent years. The preschool has used the *Distar I* and *Distar II* programs with its wide range of students (from low-income to gifted) and has sent many students into gifted programs in the local schools. People at the preschool (including Mike Masters, Dave Snyder, and Tim McKinley) have written a *Nutritional Information* program for preschoolers using Direct Instruction strategies.

Many regular education teachers in the area have received instruction in using Direct Instruction techniques with their basal reading programs. Most were trained by Karen Nye and Pat Steinert.

The WMU Psychology Department, which organizes the annual convention for the Association of Behavior Analysis (ABA), has sponsored many sessions on Direct Instruction over the last few years. This year, Zig Engelmann was a guest speaker at the convention in Milwaukee.

In summary, the people in Kalamazoo have found that Direct Instruction programs are most successful when there is appropriate training and follow-up supervision. This is probably important for anyone wishing to implement Direct Instruction.

What is probably unique about Kalamazoo is that the main initiators in implementing Direct Instruction programs were the *school psychologists* (trained by Dr. Galen Alessi). Another oddity is that the remedial programs (i.e., *Corrective Reading, Morphographic Spelling*) were the first successful and accepted Direct Instruction programs, not *Distar*. What has happened most recently, though, is that people are taking a second look at *Distar* and it is being used more and more in lower elementary grades as the basal program.

Our future goals in Kalamazoo include implementing the new Direct Instruction programs (i.e. *Corrective Arithmetic, Expressive Writing, Cursive Writing*, etc.), and having Direct Instruction programs be the main alternative to the "look and say" basal programs which are still very popular in our area.

A disclaimer: The events described above are accurate as far as the authors know, but neither one of us has ever been called Mr. Memory. If we have forgotten something or someone, please don't tell us.

Evaluating Math

By Jerry Silbert
Douglas Carnine

Numerous studies have demonstrated the effectiveness of DI programs in significantly improving academic performance (e.g., Gersten & Carnine, *Journal for Research in Mathematics Education*, in press). These results are not surprising when one considers that the DI approach to teaching is simply an ongoing attempt to identify teaching behaviors which facilitate instructional effectiveness and incorporate these behaviors into an overall instructional delivery system.

This article reviews several principles of instructional design useful for evaluating math programs, particularly if the programs are to be used with lower-performing students. Although the principles do not reflect many current practices in math education, the principles rest on a good empirical foundation.

Eight principles are presented in the form of questions that could be asked when evaluating a program. Each is discussed briefly and then illustrated. Because of the great interest in problem-solving, the illustrations will refer to procedures for teaching story problems.

1. *To what extent are problems introduced in related groups?* Instructional programs usually introduce problems in related groups. Easier type problems are produced prior to more difficult types. Authors of commercial math programs have usually taken great care identifying problem types for computation skills; in contrast, story problems have seldom been classified other than in the gross manner of addition, subtraction, multiplication or division. A more careful classification would allow creation of instructional procedures that allow children to successfully discriminate among the various types. For example, addition and subtraction story problems may be *literal* (availing themselves to a phrase by phrase translation) or *complex* (in which so-called "plussing" words result in subtraction), and involve *classification*, or *comparison*. (See Silbert, Carnine & Stein, *Direct Instruction Mathematics*, 1981, for a more complete discussion.)

2. *Do the instructional programs teach efficient problem-solving strategies?* Problem-solving strategies should enable students to achieve a relatively high level of success while learning to work the problems presented in the program. Strategies, whenever possible, should also be designed so that they enable the learner to see relationships between related problem types. For example, number family exercises, in which three related numbers (e.g., 5, 3 and 8) are used to derive addition and subtraction statements ($3+5=8$, $5+3=8$, $8-5=3$, $8-3=5$), can serve as a basis for a strategy that ties all the types of addition and subtraction story problems together.

When presenting the story problem strategy, the teacher might explain that the numbers stated in a story problem are two of the three numbers of a number family. To work the problem the student must determine if one of the numbers stated in the problem is the big number of the family. If the big number of the family is given, subtraction is called for. For example, in the problem, "Nine children went on a hike. Seven were boys. How many girls went on the hike?" children is the word that refers to the big number. A number is given for children, so subtraction is called for: 9 minus 7. On the other hand, if the big number is not given, addition is required. In the problem, 7 boys and 9 girls went on a hike. How many children went on the hike?, a number is not given for children, so addition is called for.

The advantage of the number family strategy is that it can be used by students to analyze most types of story problems. When solving comparison problems such as, "Bill is 48 years old. He is 14 years younger that Sarah. How old is Sarah?", the student determines that Sarah is the older of the two persons. Sarah's age represents the big number. Since Sarah's age (the big number) is not given, the problem is solved through addition. The number-family analysis holds for other types of addition and subtraction problems and, with modification, for multiplication and division problems.

3. *Is adequate structure in teaching multi-step problem-solving strategies provided?* Most problem-solving strategies are multi-step in nature. Initially, a program should explicitly teach each step in the strategy. Later the structure should be gradually faded until students work problems independently. For example, when initially presenting story problems, the teacher could lead the students through this series of steps: identifying the groups stated, determining the "big"

Getting

By Roberta S. Weisberg

Six years ago not much was known about DISTAR® by anyone in Tuscaloosa, Alabama. I'd spent a morning once observing a DISTAR preschool program in a rural town close by and concluded that it wasn't for me. The noise, the robot like teacher-child interactions were unattractive and I saw no merit to the creation of such an environment for teaching. I still don't.

But my husband's discovery of the Follow Through data created undeniable wonder in me. Being a psychometrist by profession in the Tuscaloosa City Schools, I was bombarded daily by the enigma of children whose IQ scores indicated they should be reading but were not. So we went to Oregon to study with the gurus of Direct Instruction and became converts.

It has been an incredible struggle, the legitimizing of Direct Instruction in both a University and traditional Southern community. Both had been committed to chaotic eclecticism as an instructional philosophy and an unwieldy diagnostic, prescriptive model for remediating reading problems. While this continues to represent the University's point of view, changes in the schools have occurred.

That first school year after our return from Oregon three teachers in one school used DISTAR I Reading. One teacher was a friend, and her principal and I had established good professional ties in preceding years. We had to agree that DISTAR would be given a three year try, that no other reading program would be marched before the teachers. The teachers were desperate. There had not been a single child within recent memory who had read on grade level. The superintendent of schools gave the school "pilot" or experimental status, which forced the teachers to spend

Programs

group, determining if a number is given for the big group, telling the operation called for, saying the equation to be used to find the answer and finally, working the problem.

4. *Are strategies taught in a clear, non-ambiguous manner?* The vocabulary and syntax used in teaching problem solving strategies should be carefully controlled. The words used by the teacher should be words which are understood by the students. Suppose a teacher assumed students understood the meaning of the word "classes" (referring to a group) and used this term without prior teaching in presenting classification story problems. "Here's a rule for working classification problems: If a story problem tells how many are in the largest class, you subtract to find a number of one of the smaller classes." Students with lower levels of language skills would probably have difficulty because they could not identify classification problems and would not know what *largest class* meant.

5. *Are the component skills for multi-step problem-solving strategies identified and taught prior to the introduction of the problem-solving strategy itself?* Students should have the opportunity to master the component steps in a multi-step problem solving strategy before being expected to put all the components together in the strategy itself. For example, prior to introducing classification story problems, the teacher would present tasks in which the students are taught to determine the "big" group of 3 groups (e.g., airplanes, vehicles, trucks; apples, oranges, fruit). In another set of exercises, two of the three numbers of a number family would be given and the students required to determine the missing number. If the big number is not given, the student adds; if the big number is given, the student subtracts. Mastery of both these component skills is assumed when the number family strategy for story problems is introduced. Thus, exercises to teach these component skills would be presented for several days or weeks prior to the introduction of classification problems.

6. *Is massed practice provided to develop student mastery?* Massed practice, which involves presenting a significant number of examples of a new problem type, should be presented daily until students can work problems accurately and with relative ease. Massed practice is

particularly important with multi-step strategies. For example, more naive students may need two or three weeks of daily practice before they will be able to discriminate addition and subtraction classification-story-problems with relative ease.

7. *Are discrimination practice examples provided?* In discrimination practice exercises, which follow student mastery of massed examples, newly taught problem types are mixed with previously taught problem types of a similar nature. This mix not only serves to review earlier introduced types, but is critical if the student is to learn how and when to apply problem-solving strategies.

For example, after the teacher has presented massed practice on classification story problems, the teacher would present worksheets containing a mix of the previously introduced story problem types and classification problems. A new type problem would not be introduced until students perform accurately on these worksheet exercises.

8. *Is sufficient review of skills provided to facilitate retention?* A goal of an instructional program is that upon completion of the program, the students will be able to work the problems presented in the program and will retain the skills for a significant period thereafter. Retention of skills depends in good part upon systematic review.

A systematic pattern for reviewing skills gradually reduces the number of practice examples of a particular skill, while ensuring that problems of that type appear frequently enough to maintain student proficiency in applying the appropriate problem solving strategy.

Although story problems were used as illustrations, these principles apply to the full range of math skills and concepts. The degree to which a program incorporates these principles can be used as a basis for selecting among various programs, particularly when those programs are to be used with lower-performing students.

References

Gersten, R. & Carnine, D. Effective mathematics instruction for low income students. *Journal for Research in Mathematics Education,* in press.

Silbert, J., Carnine, D., & Stein, M. *Direct instruction mathematics.* Columbus, OH: Charles Merrill, 1981.

Recent Publications

1. Paul Weisberg, Richard A. Packer, and Roberta S. Weisberg have completed a chapter for J.L. Matson and Robert McCartney's forthcoming book, **Handbook of Behavior Modification with the Mentally Retarded,** Plenum Press (scheduled publication date is March, 1981). The chapter, entitled Academic Training, argues and presents evidence for the use of Direct Instruction approaches for the teaching of basic concepts and reading to low performing individuals.

2. Direct Instruction programs have been evaluated in self-contained classrooms for children labeled learning disabled as a part of Project ExCEL and are being used as the major academic programs in similar classrooms under the auspices of the University of Virginia Learning Disabilities Research Institute. Although the CRP programs (both Decoding and Comp.) have been used most, DISTAR programs have been adopted for younger students. Evaluations of these projects have yielded encouraging data and some results are appearing in these papers:

Lloyd, J., Epstein, M.H., & Cullinan, D. Direct teaching for learning disabilities. In J. Gottlieb & S.S. Strickhart (Eds.), **Current Research and practice in learning disabilities.** Baltimore: University Park Press, in press.

Lloyd, J., Cullinan, D., Heins, E.D., & Epstein, M.H. Direct instruction: Effects on oral and written language comprehension. **Learning Disability Quarterly,** in press.

3. **Direct Instruction Reading** by Doug Carnine and Jerry Silbert discusses research, rationale, and application to commercial programs of procedures from the DISTAR and Corrective Reading programs. Three reviews of the book have been quite favorable:

'... it is not just the first good reading methods book, it is the only one."
"In sum **Direct Instruction Reading** merits a close examination as a contender for the Reading Reform Foundation's accolade as 'the best college text available for teacher training.' "
"In spite of these defects, in my opinion, this is by far the best book to date that treats reading instruction. It should go a long way toward filling the urgent need for more practical texts in that area. For all elementary school teachers and for special reading teachers, the book should be required reading. In fact, anyone interested in reading instruction from any perspective, whether it be research or practice, will find this publication indispensable."
"**Direct Instruction Reading** is a much needed addition to reading instruction literature . . . Teachers and instructors of teachers who read this book are sure to look forward to the forthcoming publication of **Direct Instruction Mathematics."**

4. **Direct Instruction Mathematics** by Jerry Silbert, Doug Carnine, and Marcy Stein provides teaching procedures for a full spectrum of advanced math topics, including story problems, measurement, geometry, study skills, percent, decimal, and fractions, as well as entry level skills—counting, symbol identification—and the four basic operations (addition, subtraction, multiplication, and division). Well over 100 specific formats specify strategies for teaching these skills. At the end of each chapter, guidelines for diagnosing and remedying student errors assist teachers in understanding why students make mistakes and how mistake patterns can be eliminated in a few days, rather than continuing for weeks or months.

JDRP Validates Nine DI Projects

During the last two months, the remaining nine Follow Through projects under the direct sponsorship of the University of Oregon's Direct Instruction Follow Through Program (Doug Carnine and Siegfried Engelmann, directors) were validated by the Joint Dissemination Review Panel (JDRP) of the Department of Education. (The three other projects had been validated earlier.) Panelists are selected from both the National Institute of Education (NIE) and other research-oriented branches of the Department. Each of these projects was approved after providing evidence of effective educational programs in reading, mathematics, and language for low income students in the primary grades. The majority of projects demonstrated evidence for a period of at least ten years. Virtually all of the nine decisions were unanimous. Direct Instruction is the only Follow Through sponsor to have all twelve of its project validated as exemplary.

JDRP validation means that the projects are considered exemplary educational models for their target populations and may apply for funds for various dissemination activities. All of these projects use the Direct Instruction model, including the use of Distar materials in reading, language, and arithmetic.

The projects represent a wide range of communities and ethnic populations; two primarily urban Black (P.S. 137 in New York City, and the Nichols Avenue School in Washington, D.C.), one rural Black (Williamsburg County, S.C.), two rural Anglo (Flippin, Arkansas, and Smithville, Tennessee), one Native American (Chero-

kee, N.C.), two Hispanic (Uvalde, Texas, and East Las Vegas, New Mexico), and one both Hispanic and Black (San Diego, CA).

In each case the project produced achievement test scores in reading and math significantly above those expected for low income students in that region of the country. A wide battery of tests was used, including the Metropolitan Achievement Test, the California Achievement Test, the Comprehensive Test of Basic Skills, and the Wide Range Achievement Test. In seven of the nine projects, average student performance was at or above the national norm level (the 50th percentile), though Department of Education evaluation information would predict mean performance at approximately the 20th percentile.

The JDRP meetings were held in Washington, D.C., on December 19, 1980, and February 13, 1981. Dr. John Rodriguez, Undersecretary of Education, attended the second meeting. Russell, Gersten, the Follow Through evaluation director, and Wesley Becker, Associate Dean of the College of Education, defended the proposals before the panel. Directors of each of the local projects were present to speak on issues of curriculum and project management.

In each case the evaluation reports were prepared by the University of Oregon Follow Through Evaluation staff in conjunction with local personnel: Bill White, Tom Heiry, Paul Williams, Linda Meyer, Joan Gutkin, Harriet Kandelman, Susan Green, and Jane Donahue contributed to the data analysis, writing and editing of the reports.

DI Going

longer periods of the day in reading instruction, and lessened the record keeping which diagnostic prescriptive teaching required. I was permitted to use some of my psychometrist time as a trainer and supervisor.

Word spread and so did controversy. However, several things were and remain undeniable. The teachers love what they're doing. In every school in which DISTAR and now Corrective Reading programs are used, teachers who had once considered themselves incapable of teaching are having their professional careers validated by good pre-post test data and the heartwarming, constant, observable signs of learning.

So what else is new? The University no longer sends student teachers to the two schools which now use DISTAR reading exclusively in the primary grades. Its remedial reading training center graduates Master's degree people who still have not

heard of Direct Instruction, no less DISTAR. I have made many professional friends among teachers and some administrators. The enemies are in the supervisory staff. They can't give up their theories.

But that's okay. I am now a Curriculum Associate in basic skills, grades 1-12. Direct Instruction is in half the schools in our system with around forty teachers devoted to its use. The first in-service program about Direct Instruction attracted four people and lasted an hour. Last year's workshop attracted sixty and went for three hours. All training sessions that I run are full.

Direct Instruction program advocates come from the existing teaching community. Because I'm the only one who is responsible for their training and program implementation and effectiveness, I run a little scared sometimes. The piranhas of the status quo still lurk in their still waters of contentment and are waiting to get me!

How To Use Peer Tutors

By Craig Darch

Peer tutoring has many applications. It can be used to: (1) provide additional practice of newly learned academic skills; (2) help frequently absent students keep up with their assigned groups; and (3) provide a "catch-up" operation for students who transfer from another school.

Two important tutor characteristics are initial interest in tutoring and academic competence. Tutors who have volunteered for participation learn critical teaching behaviors quickly and implement programs reliably with less supervision from the classroom teacher. Once a student has volunteered, teachers should watch for signs indicating interest in tutoring is decreasing. For example, failure to arrive on time to training sessions or inability to accept corrective feedback from the teacher may suggest that the tutor's interest in tutoring is decreasing. Changes in the tutor's incentives or schedule might correct this.

In order to provide adequate instruction, tutors must be competent in the area of instruction for which they are responsible. They must be able to respond quickly and accurately to both correct and incorrect responses. The teacher should evaluate the prospective tutor in two areas: the tutor's performance in their own assigned academic groups and the tutor's performance during training. By doing this, the teacher can readily observe if the tutor has difficulty with tutoring material.

A peer tutoring program can prove most beneficial to the tutee in the area of transfer skills across instructional materials. Once students have demonstrated mastery in one type of instructional program, the peer tutor can present tasks from other materials. For example, alphabetization skills can be applied when using the dictionary, encyclopedia, or index. Consonant blends can be presented not only in isolation, but in reading, spelling, and language materials. Basic decoding skills can be applied in several instructional materials, (e.g., Distar Reading I, Reading Mastery Program, and Houghton-Mifflin Reading Series). This type of programming can develop appropriate student performance across a variety of instructional materials. This is especially important for helping special education students use their "resource room skills" in the regular classroom. By having the tutor train the tutee in academic material taken from regular classrooms after the student has been trained in highly structured materials, the chances of successful mainstreaming are greatly increased.

Experience suggests that 5 to 15 minute tutoring sessions are both short enough to be manageable and long enough to be effective. Teachers should be flexible in scheduling tutoring, but sessions immediately following an academic group period can help manage tutees' classroom behavior. This is especially true if the tutee enjoys tutoring sessions. If so, the teacher can require the tutee to meet a minimum performance criterion in their regular reading or math group to earn the tutoring session. Thus, the tutee might work in one academic session to earn the privilege of another academic session. Peer tutoring can be highly reinforcing when the learner is working with a peer held in high esteem and when much success is experienced.

Behaviors to teach peer tutors. Successful peer tutoring depends on effective training of tutors. Tutors should be trained in prompting and reinforcing responses, correcting errors, and collecting and graphing data.

To manage sessions effectively and independently, tutors must be adept at reinforcing their charges. Few students initially exhibit skill in praising peers; it is not taught in many classrooms. Therefore, expect to provide a week or so of training before the tutor enthusiastically reinforces correct academic responses.

Teaching the tutor to reinforce appropriate social behavior will also prove worthwhile (e.g., sitting quietly, paying attention, and working hard). Appropriate social behavior can be defined by the classroom teacher and discussed with the tutor. Once the tutor is able to describe the behavior expected of the tutee, the teacher can let the tutor observe academic sessions in the classroom and pick out instances of appropriate and inappropriate student behavior.

Teachers and tutors are most effective when they give learners feedback about their performance. Discrimination between correct and incorrect responses from the tutee should be rather routine. Therefore, much of the tutor training should revolve around the way tutors deliver corrections. Tutors must be trained to give corrective feedback immediately. Any delay between an incorrect response and the tutors' corrective feedback weakens the value of the correction procedure.

Tutors must also be trained to correct in a pleasant and positive manner. The tutoring program can become unpleasant and unsuccessful if the tutee is punished for incorrect answers. Tutors should not raise their voice during a correction procedure, show disapproval at the incorrect response, or laugh at a tutee's error. Finally, the tutor must be trained to model the correct answer or the strategy for determining the correct answer and to do so quickly and clearly.

Tutors who are able to prompt tutees to think carefully before responding and to keep trying even though they have made a mistake are likely to be successful. Training tutors to use this kind of prompting should enhance the tutor/tutee relationship and may help the tutee to see the tutor as a valuable source of information in future interactions.

Training tutors in basic data collection and graphing procedures can have important payoffs in a peer tutoring program. Children as young as five can be trained to count responses and graph results of a tutoring session. If the tutor is responsible for evaluating tutee performance during the session, the tutor attends closely to the tutee's performance. Further, the data collected and graphed by the tutor can help the teacher keep updated on both the tutee's and the tutor's performance. Should the data indicate a significant drop in the tutee's level of correct answers, the classroom teacher can evaluate the instructional materials, academic content, and the tutor's instructional delivery to pinpoint the problem.

Training procedures. Training tutors in the skills discussed above can be done in a training program comprised of four phases: (1) teaching tutors in isolation; (2) training the tutor while he/she is actually teaching the tutee; (3) periodic teacher checks during tutoring sessions; and (4) teacher use of data to monitor and give tutor feedback.

Tutor training should begin with role playing. Sessions of about 15 minutes can occur before or after school or during recess time. The teacher first models tutor skills and later reinforces tutors when they imitate these skills. Tutors must be given immediate feedback on their performance. For problem areas, the teacher can model the skill again and provide verbal prompts while the tutor performs the skill.

Once tutors demonstrate mastery of each skill in isolation, they should practice them in combination in role playing situations (i.e., conducting an entire tutoring session). Most tutors will not need more than three or four such sessions before starting work with their assigned tutee. For the first few sessions, the teacher should sit with the tutor during tutoring sessions to provide feedback.

During the periodic check phase, designed to ensure maintenance of effective tutoring, teachers need only issue feedback to students on their implementation of the program and provide problem-solving support. Teachers should observe every second or third session for a week or two. This will depend on tutor performance.

In the final training phase, the teacher can use the tutor-collected data to evaluate the sessions. Periodic discussion with the tutors and tutees will determine whether changes are needed in the sessions. Intervention by the teacher would occur if either the data or anecdotal information from the student participants indicates a problem.

Other benefits. What are the benefits of peer tutoring besides increased academic performance on the tutee? Tutors can learn from the tutoring experience as well. In one study, LD tutors improved their word recognition appreciably when they tutored other students in similar activities. This indicates that peer tutors do not necessarily lose instructional time when they are involved with teaching.

Tutors can improve performance in other areas besides academic achievement. Learning new social skills can be one positive side effect. The responsibility of tutoring requires cooperation, following directions, sensitivity to another's needs, and evaluation of a peer's performance.

The development of a positive relationship with a peer can be an important aspect of the tutoring program for the tutor, as well. Low social status is often correlated with poor academic performance. Therefore, activities that enable the tutee to do well may be important in increasing the tutee's self esteem and status with peers.

Peer tutoring is an effective and efficient method of increasing students' academic engaged time. Much of the unproductive time that students spend in unsupervised seatwork can be replaced with peer tutoring time that is individually prescribed for academically deficient students. The appropriate social skills learned by both the tutees and tutors make such interaction an important aspect of a total educational program.

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The World of Facts

A social studies/science program for grades 3-6 entitles The World of Facts is being developed by Engelmann, Davis and Davis. Content analysis of current curriculum in social studies and science discloses that approximately 90% of the material involved facts, systems of facts, rules and vocabulary. Traditional texts introduce and expose the learner, but do not teach. The World of Facts program uses a visual-spatial display to teach factual relationships. Research has demonstrated the effectiveness of visual-spatial display in teaching fact relationships.

The instructional format involves a visual-spatial display and a teacher script. The teacher "leads" the children through the different cells that are on the visual-spatial display. The teacher then shows the same visual-spatial display without the words printed in the various cells and reviews what was in the cells. Immediately following the blank display review, the children play a dice game where they have to recall and use the information on the chart. Over the course of a 40 lesson unit the children may play three different dice games up to seven times on a given visual-spatial display. Children have demonstrated an amazing ability to recall past displays, to learn new displays and to apply the information learned on application games.

Two 40 lesson units have been written and a third is close to completion. The first unit is introductory. Various types of displays and the different topics that will be covered in subsequent units are taught. The second unit deals with vertebrates, climate and geographic regions and geological time. Unit three presents information on plants and print classification. Cell anatomy is used to integrate the plant and animal kingdoms. Finally, the food chain, nutritional needs, and the various body systems are taught.

Contact: Engelmann Becker Corporation
P.O. Box 10459
Eugene, OR 97440

Corrective Mathematics

Corrective Mathematics, designed for grades 3-12, includes independent modules in key basic mathematics areas: addition, subtraction, multiplication, division, and measurement/money. Placement tests are in each module. Lessons contain scripts for teaching basic facts, computation, and story problems. For each module there is also a workbook containing all the materials a student needs: exercises to be worked during teacher-directed instruction, independent review activities, and continuous review of skills. Lessons may be taught to a small group or to an entire class. Each of the 65 lessons takes about 35 minutes to teach.

Contact: Science Research Associates
155 North Wacker Drive
Chicago, Illinois 60606

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The Roles of Principals in Educational Change

By Doug Carnine
Russell Gersten

Virtually everyone recognizes that if educational innovations are to endure, they must become integrated into the school district. The past five years have seen a growing emphasis on the pivotal role of the building principal in institutionalization of innovative practices.

In his research on a wide range of innovations, Hall (1979) concludes:

Further, our own research findings lend evidence to the notion of the importance of the administrator to the change process. Our three-year, longitudinal study of 19 elementary schools in a large school district yielded some relevant and intriguing findings (Louchs & Hall, 1979). Schools implementing the same innovation with the same district-level support, and the same initial Levels of Use and Stages of Concerns profiles for teachers do not undergo the change process uniformly. At the end of the second year of implementation, teachers in a few schools (3 out of 21) had progressed from being nonusers to having intense impact concerns at Stage 4, Consequence (i.e., impact of their teaching on student learning). In contrast, the other schools, including several that had actually begun the implementation process earlier, had teachers whose concerns stages were still most intense at Stage 3, Management. It appeared that the principals in these three schools functioned differently, and as a consequence, impacted differently the course of the change effort (page iv-30).

Descriptive studies of effective schools for low income students consistently show that the principal plays a strong role in their success — by articulating a school-wide emphasis on reading and math, setting high expectations for students, sharing a belief that teachers are responsible for students' learning, not blaming parents and environmental factors for failure, and visibly backing up this commitment by actively monitoring student progress (Clark et al., 1980; Edmonds, 1979).

Though these studies do not deal with innovations in the literal sense, they discuss schools that have, for various reasons, internally developed programs with high levels of academic learning time.

Edmonds outlines five components that appear to be present in effective schools for low income students.

1. Strong administrative leadership.
2. A climate of high expectations for all students. If a child is not learning, it is considered the teacher's — not the child or the community's — responsibility.
3. "Effective schools get that way partly

DI Programs Flow Chart

At the Eugene Conference, a number of teachers requested that we include in the Newsletter a flow chart showing the available and upcoming progrms in DI and their sequence of use. The chart below provides that information. The sequence across the top is intended to show sequence, not prescribe grade levels of usage. Programs are used depending on the knowledge of the students.

Programs For Developmental Usage	Sequence					
	1	2	3	4	5	6
DISTAR Reading (SRA)	I or Fast Cycle	II	III		(V)	(VI)
DISTAR Language SRA)	I	II	III	IV*		
Corrective Reading (SRA)				Comprehension B and C until new reading is out		
DISTAR Arithmetic (SRA)	I	II				
Math Modules (SRA)				Addition (1-65) Subtraction (1-65) Multiplication (1-26) Division (1-26)	Multiplication (27-65) Division (27-35) Math Concepts (1-65) Basic Fractions	Fractions, Decimals, Percents	Ratios and Equations
Spelling Mastery (SRA)		A	B	C	D	E
Cursive Writing (EBC)			X			
Facts Program (EBC)				1*(2, 3)		
Dictionary and Library Skills (using the phonebook) (EBC)			X* or X*			
Expressive Writing (EBC)				(I)	(II)	(III)

* In press
( ) Under development

Field-Oriented Ph.D. Program in Special Education at the University of Oregon

The primary objective of the program is to teach the administrative and practical research skills that are implied by the supervisor's role, teach training behaviors, and consult on field implementations. The program will allow qualified candidates to earn money while attending school.

The program is designed so that the candidate is not tied to classes (or supervison) on a daily basis. Ideally, the second half of each week will be free, permitting the candidate to work on outside projects.

The program uses existing sequences with some modification. It includes:

1. A two-term series on research methods.
2. A two-term sequence on the Design of Instruction. The content will include the type of information that is needed for supervision diagnosis, and field implementations.
3. A three-term sequence on logical critiques and writing skills. The first will focus on critiques of research articles, policy arguments, etc. The second course will concentrate on reviews, summaries, and editing. The third is a grant writing course.
4. College-course teaching will be part of the first-year and second-year sequence. During the first year, the candidate will be part of a team involved in teaching one of the Direct Instruction courses (the candidate will be responsible for a specific part). Also, this course will be used to assess the candidate's presentation skills and to provide individual remedies. During the second year, the candidate will engage in two terms of college-course teaching; again in one of the Direct Instruction programs, including possible involvement in the Design of Instruction or teaching the supervisory practica.
5. The supervisory practica will be scheduled for two terms each year. These practica will focus specifically on in-classroom management of trainers and their students. During the first year, supervisors will be involved with students in the direct instruction practica. During the second year, the supervisor will focus primarily on the training of first-year doctoral candidates.
6. The preservice-inservice practica will be presented during two terms of the second year. The focus of these will be an extension of prescriptive techniques for dealing with observed problems, procedures for conducting inservice sessions, use of data for identifying priorities and topics, etc. The focus will be on very specific behaviors, with the candidate required, in the spring term of the second year, to use field data derived from supervision to design, execute, and take data on the effectiveness of the interservice remedies provided.
7. The third year will be reserved primarily for the dissertation and course pursuits related to the dissertation.

Programs for Remedial Usage	Use for Grade 4 Through Adult as Needed
Corrective Reading (SRA)	
Decoding	Levels A, B, and C
Comprehension	Levels A, B, and C
Corrective Mathematics (SRA)	Addition, Subtraction, Multiplication, Division
Math Modules (SRA)	Math Concepts
	Basic Fractions
	Fractions, Decimals, and Percents
	Ratios and Equations
Corrective Spelling Through Morphographs (SRA)	One program, 140 lessons

	For Use at Level Needed
Hofmeister Tutorial (EBC)	
Reading	Time Telling
	Sounds, Symbols, and Blending
	Word Endings
	Functional Decoding and Vocabulary Building
Math	Number Skills
	Math Combinations (Addition, Subtraction, Multiplication, Division)
	Carrying and Borrowing

Large City Imple

By
Russell Gersten
Leslie Zoref
Doug Carnine

In August 1978, a large urban school district contracted with the University of Oregon DI Follow Through Project to supervise the implementation of the DI Model in 10 kindergarten and 11 first grade Follow Through classrooms. The DI Model represented a very different educational philosophy and system than the one that had dominated the previous 10 years of Follow Through in that city.

One month later, the U.S. Office of Education funded a 2-year implementation study of the DI Model to better understand change processes in a large urban school district. The study had two goals:

1. To document, via interviews and case study, the process of adoption of a highly structured educational model in a community which had previously used a "loose coupling," laissez-faire approach.

2. To develop valid and reliable measures of implementation of the DI Model and to assess to what extent of implementation correlate with achievement gains in Reading and Math.

Primary responsibility for the first objective was subcontracted to an independent agency.

IMPACT OF DI
ON THE COMMUNITY

Impact of DI on the Community

Despite an extraordinary amount of turmoil, the first year of implementation was considered a success in terms of student achievement. Reading scores for kindergarten and first grade were higher than they had ever been. (Math was not implemented until the second year.) Early in the second year of the program, a judge, who had been overseeing the city's voluntary desegregation program, ordered an examination of the quality of education in the 28 minority schools. This represents (a slow but) growing trend in busing decisions, in which both the quality of teaching and the racial composition of schools are considered. He appointed 3 educators from outside the district to observe educational practices, and then recommended procedures likely to improve the quality of education. The 7 Follow Through schools were among the schools targeted. The court-appointed team observed that typical educational practices in the minority schools were weak. They cited the lack of active instructional leadership by the principals in these schools, and the tendency to blame poor academic achievement of students on factors such as poverty, ethnicity, lack of parental interest, rather than seriously looking at the instructional system. They also criticized the extensive use of "pull out" for remedial reading and the consequent diffusion of responsibility for student growth. Finally, the absence of intensive, high-quality, concrete inservice in minority schools was cited.

They found 2 exceptions to this generally glum picture—the 7 schools with Direct Instruction Follow Through and 2 schools with a bi-lingual program. They praised the high quality of concrete, down-to-earth,

technical assistance offered by the supervisors, and the high level of time students spent actively engaged in reading, math, and language activities.

The judge's decision reflected the findings of the team, and his own investigation of the East St. Louis DI Follow Through program. Here are some excerpts:

Recent experience with schools in poor minority urban districts reveals that if the schools are properly run, virtually all students, no matter how disadvantaged, can be taught to read, write and calculate at a level sufficient to function in American Society. . . .

East St. Louis, Illinois, began a Follow Through Program in 1968 using Distar. By remaining with the program they have produced outstanding results. The pupils of this district, which is over 90% black, test on pre-school examinations below 88% of the nation's students, but by the end of the third grade, they test above 50% of the nation's students in both reading and mathematics.". . .

In the past school year, the mean reading score in Distar kindergartens was at the 72nd percentile (range from 60th to 87th percentile). For mathematics, the mean total score was at the 57th percentile. In first grade, the children were tested at the 18th percentile in the reading and 20th percentile in mathematics at the beginning of school, and they tested at the 46th percentile (average) at the end of the year in both reading and mathematics. There were seven classes combined in this average.

He goes on to discuss the proven superiority of phonics-based reading program, the necessity for a system to monitor implementation of the educational program, the need for concrete supervisor feedback, and concluded with the following:

Traumatic though it may be to the community, busing is an easy way out—temporarily. Busing can be carried out by superintendents reluctant or unwilling to do so. It is visible, easily enforced by the Court and immediately satisfying to those minorities who see it as a symbol of victory over the white community or who have been misled to believe that it will magically produce better educational results for their children.

Educating children requires willing cooperation on the part of the top administrators, principals, and teachers and the organizations that represent them. It requires hard work, inspiration, imagination and perseverence. It is less newsworthy and less visible, but more fulfilling. It works to lift the children out of isolation—permanently!

The DISTAR Follow Through programs have received extensive coverage with a total of nine articles appearing in the city's newspapers during the summer of 1980 when the district was deciding on expansion into other schools. A lead editorial was called Distar's Success Story. Here are some excerpts:

Improving the quality of education available at 23 predominantly black and hispanic schools would be a moral imperative even if it were not also essential to the success of this city's school integration effort.

The parents of white, middle-class youngsters will never be persuaded to send their children to minority schools so long as those already enrolled in these schools continue to score abysmally low in tests of basic reading and mathematical skills.

More importantly, failure to enhance educational opportunities for minority children only condemns them to the tragic patterns of the past, including sharply diminished employment and career prospects.

Fortunately, the problem is not insoluble. Help is available in the form of a classroom program known as Direct Instruction, or DISTAR.

DISTAR's stress on rote learning and regimentation offends many school administrators and teachers who favor a more "creative," less structured classroom atmosphere. But that approach, typical of middle-class schools, has proved a disastrous failure for minority children from poverty backgrounds. Indeed, it has contributed to the decline in test scores among middle-class children.

Conversely, Direct Instruction has achieved results far surpassing any of the other 15 or so experimental techniques tested in minority schools around the country since the late 1960s. DISTAR delivers what other methods only promise; namely, raising the reading and math test scores of disadvantaged children to national norms for their grade levels. That being the case, it seems absurd to oppose DISTAR on grounds of arbitrary, and discredited, philosophical bias.

The legacy of that bias is a conviction shared by all too many educators that minority children simply cannot learn at rates anywhere near those commonly achieved by the middle-class majority. That pernicious myth is challenged eloquently by the Rev. _____ in an interview published opposite this page.

The city school board is scheduled to vote Tuesday on whether to expand its DISTAR experiment to 18 additional classes. Superior Court Judge _____, who is overseeing the district's court-ordered voluntary integration plan, has indicated he favors a wider implementation of the Direct Instruction method.
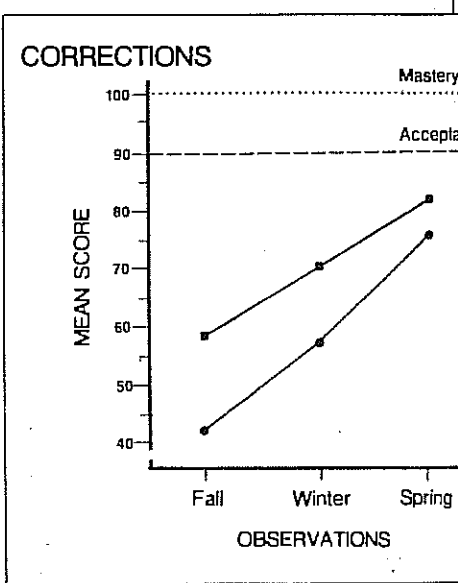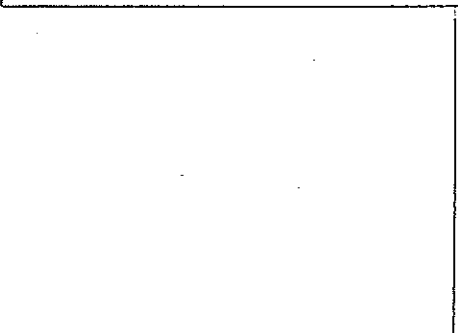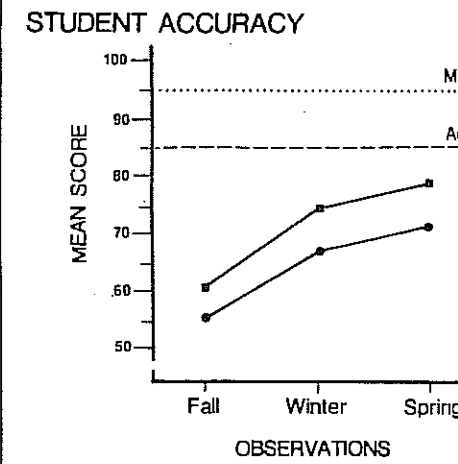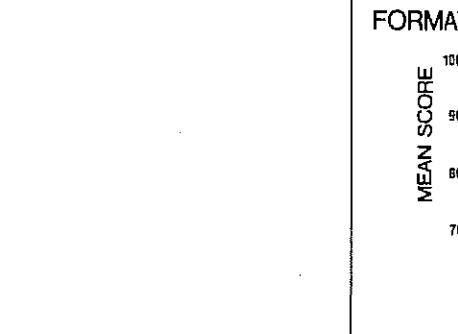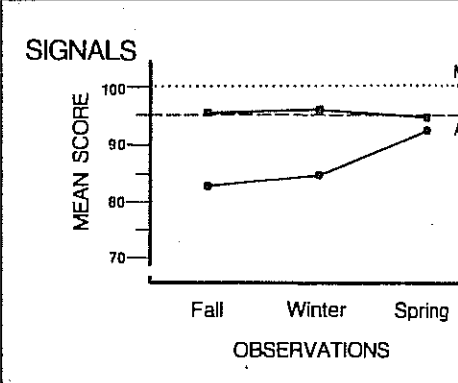
So do we. And we trust that a majority of the school board will agree when it meets on Tuesday. (Reproduced with permission.)

THE CLASSROOM
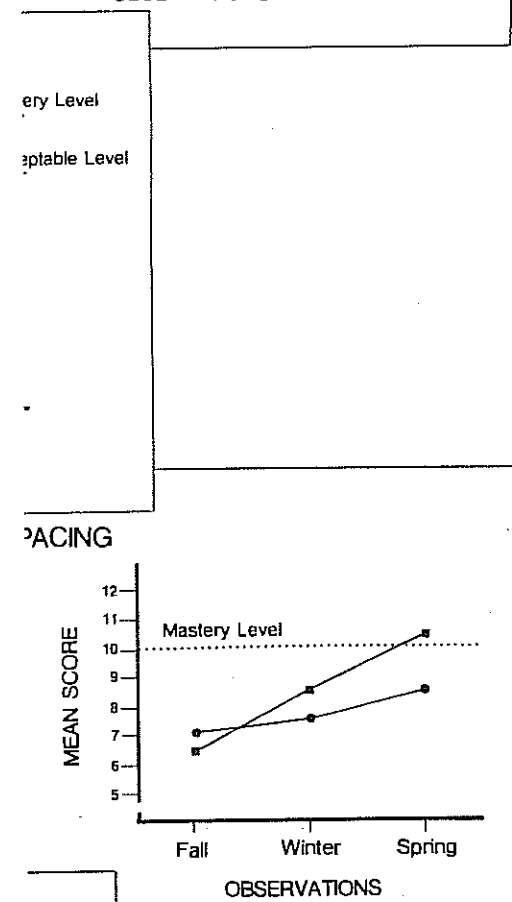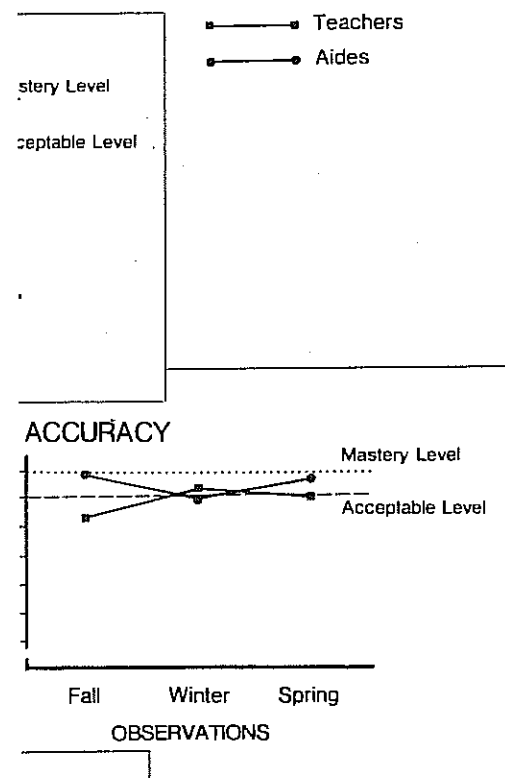## OBSERVATION STUDY

The Classroom Observation Study

During the 1978-79 school year a DI Supervision Code (DISC) was developed to observe the following five critical teacher

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ACCURACY

Mastery Level

Acceptable Level

Fall   Winter   Spring
OBSERVATIONS

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PACING

MEAN SCORE

12—
11— Mastery Level
10—
9—
8—
7—
6—
5—

Fall   Winter   Spring
OBSERVATIONS

ivel

Level

Editorial on page 8 reproduced with permission of the San Diego Union.

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performance variables: (1) Corrections, (2) Pacing, (3) Format Accuracy, (4) Signals, and (5) Mean Student Accuracy.

Each teacher (or aide) was observed for at least one 12-minute session per phase teaching a small group DISTAR lesson in either reading (for the teachers) or oral language (for the aides). Observers were trained DISTAR consultants. Each teaching trial was recorded in one frame with three components—teacher presentation, student response, and teacher response. Any errors the teaching staff made in presentation (e.g., inaccurate format) or response (failure to correct an error) were noted. If even only one student failed to respond when a unison response was required, the box was marked NR (no response). At the end of 12 minutes, the teacher's pace (number of learning trials per minute) and the accuracy rate of the other four variables (in percentages) could be calculated.

The analysis revealed some reasonably clear patterns of skill acquisition across samples of teachers and paraprofessionals. Two sets of teaching techniques (Format Accuracy and Signals) are acquired by virtually all teachers and most paraprofessionals within a 2-month time span (see Figure 1). On the other hand, many teachers seemed unable to reach criterion level after 8 months on Corrections and Student Accuracy. Acquisition rate on these variables was even slower for paraprofessionals. There were some strong individual differences in acquisition rate. Those teachers ranked in the upper quartile by supervisors (high level implementers) differed from the lowest quartile only on three: pacing, student accuracy, and use of corrections. More importantly, there were strong differences not only in observed behavior, but in reading scores on standardized achievement tests between the high implementers and low implementers (The two high implementers' classes were at the 59th and 52nd percentile, while the two lowest were at the 27th and 22nd percentile level.)

During the summer and fall of 1979, the observation code (DISC) was streamlined by Adrienne Allen and the authors. Only the three most crucial variables—pacing, corrections, and student accuracy were included. Also, an Implementation Rating Form (IRF) was developed by Russell Gersten and Linda Meyer, with extensive input from members of the consultant staff, to offer a broader range assessment of implementation of the DI Model. The IRF rated placement of students, type of corrections employed by teachers, criterion teaching time, and basic classroom management skills. The IRF was completed for all teachers in the project. Correlations between total IRF scores and reading gains were quite strong for both the CTBS and the WRAT (in the range of .54 to .94 with a median of .70).

During a 3-week period this past spring, the study was replicated with a new group of students. Seven teachers and 7 paraprofessional aides were observed teaching 6 DISTAR lessons in Reading or Language to both high and low performing students. DISC scores were correlated with reading gains on the CTBS and with ratings made by resource teachers. Again, there was a strong relationship between DISC scores and reading achievement (a rank-order correlation of approximately .80).

The study showed that model implementation can be measured in a valid, reliable fashion. The rating form appears to also be a valid instrument, but interrater reliability indicated supervisor bias can be a serious problem in some cases. In contrast, it appears that by observing only 3 teacher

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performance variables (Pacing, Corrections, and Student Accuracy) one can predict reading achievement gains for the entire class with a high level of accuracy. There are now two validated instruments available for measurement of DI implementation—the DISC and the IRF.

CASE STUDY COMPONENT

Four reports were released by the independent subcontractor discussing administrative aspects of implementation, intensive interviews with teachers and paraprofessionals, and a naturalistic study of the role of the project manager and DI consultants. Only certain key findings will be reported here.

1. **The importance of the consultant and local supervision.** A consistent finding was that most teachers and aides found both the consultants from the University of Oregon and the local supervisors (called resource teachers) extremely helpful, perhaps the most positive aspect of the model. (This was also cited by the court appointed team.) Most teachers liked the concrete, specific "hands on" type of supervision offered, and the concrete suggestions and feedback offered. Many instructors said they found this model very strange at first, a little awkward and embarrassing. But they came to really appreciate it.

There were some divergent opinions, and some criticisms also voiced. Many found the expectations held by supervisors during the first year of implementation too high; observations were thus seen as punishing experiences. Several cited that there was a bit of disagreement between the three Oregon consultants (who each visited once every six weeks or so). Teachers found this very confusing. Some of the local supervisors were considered inadequately trained during the first year. A small, but vocal minority of teachers indicated that they did not care for the entire model of supervision.

Interestingly enough, one of the major findings of the Rand report on implementation of educational innovations was that programs tend to succeed when supervisors offer concrete, specific technical assistance.

2. **Peer support.** Teachers new to the DISTAR program had a much easier time dealing with the complexities of the program when at least some of their fellow teachers were familiar with the model.

3. **Attitudes toward DISTAR.** There was a wide range of attitudes toward DISTAR. One group liked structured programs, liked structured supervision, and seemed to thrive in this program. The largest group, however, was more ambivalent. They found the "mechanical nature" of DI went against the educational values they previously held, and made them feel a little less like teachers. Some also indicated teaching was now boring (others said they enjoyed not having to spend as much time writing lesson plans, etc.). A common theme in most of this group, though, was that the reading and language gains made by their students were at a level they did not believe possible. So they were willing to continue with the program.

A final group indicated they disliked Direct Instruction. Several wondered if the gains made by the students would last. Some of these teachers were considering transferring to other schools.

ADMINISTRATIVE ISSUES

1. **Start up.** There is a need for a start-up time longer than the one-month period allotted. In the fall of 1978, interested teachers were told to teach DISTAR with only two days of preservice training; the local supervisors had only one week of training and were not equipped to deal with many problems. Furthermore, many administrative decisions (see below) were being made while implementation was ongoing.

2. **Program conflicts.** Conflicts with Title I, Bilingual and Special Education Programs. The "pullout" model used in these programs conflicted with the in-class nature of both instruction and supervision in DI. Conflicts in regulations were not resolved prior to implementation.

3. **Teacher transfers.** It is quite likely that there will be a set of teachers like those in the third group cited above—those who do not like the model for personal or ideological reasons and wish to transfer. Dealing with these transfers is an issue that must be considered.

4. **Role of central administration.** In the spring of 1979 (the end of the first year), several members of the central staff (including the Deputy Superintendent) made strong statements supporting the model. All participants agreed that this had a powerful effect on the participants. However, there was an awareness that this would mean little without follow-up support from resource teachers and consultants.

5. **Role of building principals.** Virtually every teacher and aide found the building principal irrelevant to implementation; she or he seemed to neither support nor hinder the process. (There was one exception in the first year—a principal who actively hindered the work of the consultants.) This would seem to corroborate the finding of the court-appointed team that principals do not serve as instructional leaders.

Interviews with the 7 principals were conducted by the independent researcher. He reported that most principals regretted their inability to deal with the instructional sphere; 3 of the 7 asserted that they perceive this as their key role. However, all agreed that, due to the presence of at least 20 disparate budgets at their schools, and the multitude of Federal programs, they were forced to operate as managers.

FUTURE RESEARCH

The research being conducted this year for the National Institute of Education attempts to look more seriously at the role of the principal in managing implementation, in making sure teachers receive adequate technical assistance. Both ethnographic and quantitative methods will be employed to: (1) look at the current situation at target schools vis-a-vis technical assistance, monitoring of teaching and student progress, instructional leadership issues, (2) provide a series of inservice activities to interested principals based on prior needs assessments. This will include increasing knowledge about effective teaching, use of criterion referenced tests to monitor progress, and basic principles of supervision, and (3) evaluate changes in the school system—especially in terms of amount of time students spend actively engaged in learning. ▧

"Letters"

From the Children of The ANN SULLIVAN CENTER La Punta, Peru

La Punta, July, 1980
Dear Friend:

I am a 7-year-old child, they call me "autistic" because I hit myself and don't know how to eat or how to dress. When I am not rocking myself, I'm confined to a world that nobody can understand. My parents have taken me from one place to another looking for a "cure." At many times I have felt like a little frightened animal whom people stare at and fear. How much precious time have I lost going from place to place without learning anything?

Do you know how I feel now that I finaly have the opportunity to learn? I'm very happy, but I would be happier if other children like me would have the same opportunity I have. There are so few places where an opportunity is granted to children with severe retardation and least of all, where it is given with love and science.

Do you know that there are approximately 860,000 mentally-handicapped children in our country (Peru), of which only 5,000 are being helped in both state and private institutions? My school would very much like to extend a helping hand to other children, but it is so small that it can only hold 20 kids at a time.

I would like you to become familiar with our school.

How Was it Created?

It is a school recognized officially by the Ministry of Education. Founded on August 30, 1979, it was organized by psychologists and special education teachers who defend the unquestionable right of every human being to have an education. They work to help us to become dignified individuals, capable of communicating and relying on ourselves. They believe that we can be integrated into society.

Where Do We Function?

Right now we function on the first floor of the Mayo Family's house, who gave us a hand when we most needed it.

Thanks to Whom Do We Function?

Our Center is the product of love and teamwork, where each one helps according to his possibilities. Everything we have here has been donated to us, from the paper to the wood divider partitions that make up our infrastructures.

Our institution has been registered in the Ministry of Finance as a non-profit organization, allowing us, therefore, to grant a tax-deductible certificate to those people who give us donations.

Why Is Our Center Called "Ann Sullivan"?

Ann Sullivan showed lots of patience, love, and significant scientific research while she worked with a little girl, who was later known as a celebrity—"Helen Keller." To follow her steps, we chose her name and follow her example.

How Many Children Do We Have?

Right now we are 18, and it is a pity that we constantly have children coming who want to enter, but can't be accepted due to lack of space.

How Could You Help Us?

There are many ways you can help us, any kind of help is important for us. Now we are dedicated to the construction of a new site where more children can receive attention. If you decide to help us, please contact us for detailed information.

Yours Affectionately,
Pablito

La Punta, April 25, 1981
Dear Friend:

What a joy to meet you again! And even more knowing that you feel like I always wanted you to feel: "A member of the Ann Sullivan family."

When I look back and see in my memory how we started, my hope and faith grows in that there does exist an opportunity for me, and that life is worth living.

As I told you in my first letter, my school is very small, but it becomes larger every day with human warmth, with love for others, not just through the professionals who work there, but also through people like you who brighten our lives, rescuing us from a world full of rejection and misunderstanding.

I am happier each day because my parents and my brothers respect me as a person.

The other day, the mother of one of my fellow students sent a letter to the Center, from Ica, in which she said:

"In the beginning things were so different, we got to feel that Chris deformed our lives, that everything would be much better if he wasn't like he is, but now, thanks to God and to the Ann Sullivan Family, everything has changed, I accept my son Chris like he is, I appreciate more what surrounds me and I will try to be better, to be the mother that Chris deserves. Now that I have him far away from me, and I miss him, I know that my life wouldn't have been better, a routine maybe, but not better. I need to live next to my son, share with you his efforts, his progress, and enjoy his improvement and advances. Thank you for making me think of my son as a person, a person I should love, encourage, and guide . . ."

I want to tell you what I have learned since the last time I wrote to you. I already know how to ask to go to the bathroom, I know how to pull down my pants, and each time I need less help to eat and wash myself. You can't image the happiness in the face of my mother when she hears me say "Ma" after eight years of silence.

All my fellow students, the Center's personnel, and all the people that have made our cause theirs, are very happy because on the 20th we start the building for our future premises, but the only thing that worries me is that a lot of help is needed for the premises to become a reality. In order for us to be able to receive the integrated education that covers our

entire formative period—from the time we are born until we learn a trade and integrate ourselves into the society—we need your help.

If this is the first time that you approach us and get a close look at our cause, we want you to know that for us every kind of help is valuable, and in any way you choose to help us will be happily received.

I need you,
Pablito

La Punta, July 23, 1981
Dear Friend:

It is my turn now, my turn to welcome you and tell you about my school, but first I am going to introduce myself. My name is Fernando, I am 10 years old, and I'm here at the Ann Sullivan Center since September of 1980. I came here after being in five different special education centers, in which I could never last because of my behavior. I had such bad tantrums that I would break everything, and I would hit any person that would come near me. My parents were "desperate," taking me from one place to another without finding one in which I could stay. I wanted to behave, but I didn't know how to do it. Nobody had taught me how.

But now I am in a class with five other students and every day I learn how to improve my behavior; I have changed so much that now I even help my teacher to teach other students.

My main responsibility is to teach the student that sits next to me (a German autistic child) to recognize and name objects. Do you want to know how I learned to do this?

First I observed how my teacher did it. I learned the questions in German after hearing them a number of times, and one day, to the amazement of my teacher and of all the specialists, they say that I reviewed the lesson with my friend, asked him questions, and when he answered I reinforced him, telling him how well he

was doing! And when he couldn't answer a given question, I helped him. This is how I earned myself the title of "teacher" and I show it off very proudly on a nameplate pinned to my coat.

But the most important thing to me is that I have made my parents happier, because they know that somebody is teaching me—most of all, that I am LEARNING.

I am not the only one who is learning —my parents are, too.

My parents and the parents of all my fellow students attend the School for Parents with Retarded Children every 15 days, the first in our country. This school is not like other schools. It has something "different," and that is that everybody can teach: the professionals to our parents, our parents to the professionals and to other parents, and believe it or not, we are also their teachers, particularly when we do things they don't expect from us. We teach them that the worst thing that could happen to us is for others to think that we can't do anything, before they even give us the opportunity to try. I hope that one day you will be able to come to a school meeting. I am sure that then you will be able to understand a little bit more about our small but beautiful world.

I can't say goodbye without telling you first how the construction of our new building is coming along. With your help we have been able to finish the outer fence and very soon we will start the building of the first six basic classrooms. Thank you very much! We need you!

We have been chosen to be what we are, and you have chosen to help us, and that is why we love you.

See you soon!
Fernando

If you wish to assist, please contact for detailed information:
• Dr. Liliana Mayo
Director of the Ann Sullivan Center
Garcia y Garcia 470 (telf 298382)
La Punta-Callao, PERU

Direct Instruction Reading Research

By Richard A. Packer
University of Alabama

Nonreading kindergarten and first grade children were taught reading skills over a 40-day period with one of three reading approaches. Two of these were phonic-based. One used a letter-by-letter oral blending strategy; the other involved a rhyming strategy with word families. The third approach used was a whole word reading method. These three reading approaches were compared to a no-training control group.

The 15 training words were: an, pan, tan, at, flat, sat, up, slip, lip, it, nit, pit, ate, late & gate. Although the two phonic groups both learned the letter sounds, only the letter-by-letter group learned blending skills. The rhyming group learned to rhyme words according to the word family to which the training word belonged. Direct instruction procedures were used in training all groups (small group unison oral responding, rapid pacing, signaling, corrections, cumulative

programming and teacher-student motivational games). After attaining 100% criterion on all 15 training words, 30 transfer words were presented to assess for generalization of training.

No significant differences in acquisition were obtained between reading treatments in the time required to learn 15 words. There were significant rate of learning differences, with the whole word group learning more words in the initial 4 weeks of training, and the two phonics-based reading groups learning more words in the last 4 weeks of training.

The two phonics-based reading treatments read significantly more transfer words than did the whole word group, whose members read very few transfer words. The two phonic groups could be distinguished by the types of words they could decode.

There was a tendency for only high IQ children to master acquisition words in the whole word group whereas high-low IQ differences were much less pronounced in the two phonic-based programs.

Making Schools Work

Benjamin, Robert I. *Making Schools Work*. New York: Continuum Publishing Corporation, 1981. (200 pp./$12.95)

Making Schools Work is a powerful and compelling book. It follows a series of recent works which have indicted American education as ineffective (e.g., Holt's *How Children Fail*, Kozol's *Death at an Early Age*), but this book is different. Its primary purpose is not to condemn contemporary school practices for the disadvantaged, but to identify procedures which enable educationally at-risk children to succeed in school.

The book is the story of a journalist's search for exemplary classrooms and educational practices in America's urban elementary schools. The author, Robert Benjamin, an educational reporter for the *Baltimore Sun*, spent months observing in classrooms, distilled the factors which seemed to determine the outcomes they produce, and synthesize these variables to produce an overview of schools that work. Benjamin has a vast and detailed knowledge of American education and contemporary issues related to it. This factor, together with the book's case study approach, colorful character sketches, and the author's rapid-paced, journalistic style, make the book both educational and involving.

Benjamin reports on three educational approaches and four specific schools which he discovered on his journey. The approaches include DISTAR, Mastery Learning—a system similar to DISTAR in philosophy and approach, but somewhat less structured; and the Modesto Plan—a compilation of philosophy, policy, and procedure drawn from other effective approaches. The schools described include a no-nonsense, back-to-

basics "academic center" on Chicago's south side; a high-achievement, "middle-class values school" in a South Bronx ghetto in New York City; a once exemplary school, now in shambles, in a blue-collar community near Detroit; and a once highly structured, now faltering, human-relations-oriented school in inner-city Louisville.
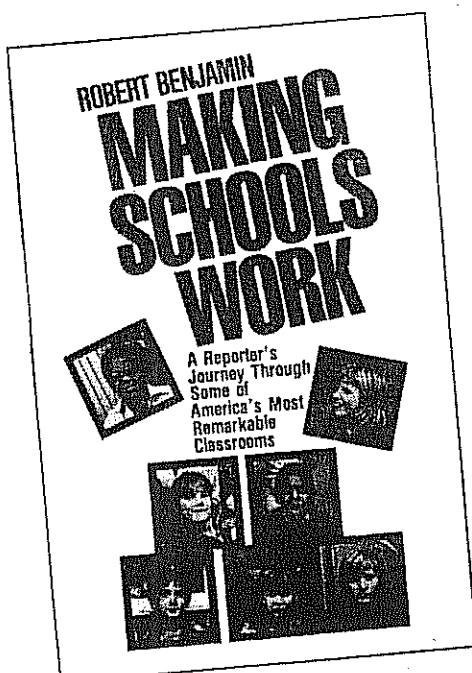
The book devotes considerable attention to Direct Instruction and is highly favorable to it. The topic is the sole focus of one of the book's seven chapters (Chapter 3) and is put forth as a standard for comparison in several others. Direct Instruction, essentially, is the hero of the book. Chapter 3 begins with a DISTAR success story set in Houston, then names nearly a

dozen other cities in which the program has produced similar results. Readers who have worked with the program in the past will recognize many of these successes as their own.

The familiarity of the people, as well as the programs, described in this chapter add to the book's fascination for Direct Instruction enthusiasts. Benjamin acknowledges Engelmann as "the father and guiding light of DISTAR" and sketches a colorful portrait of him. The critical influences of Bereiter and Becker are also noted.

Benjamin credits both the instructional design and the instructional delivery components of the DISTAR Programs as critical to their effectiveness. He describes a well-delivered teacher presentation in considerable and accurate detail, and he uses a series of varied examples to explain that the same teaching strategies are used across subject areas. He clearly understands the system.

Benjamin compares DISTAR to the Mastery Learning Approach, then contrasts the two, saying that "DISTAR carries Bloom's principles of high-quality instruction to their ultimate, systematic conclusion . . . It leaves nothing to chance . . . even more convincingly than Mastery Learning, . . . DISTAR has provided powerful proof that virtually all children can learn" (p. 71).

The chapter addresses many issues and aspects of Direct Instruction; it articulates the assumptions and the policies of Direct Instruction programs; it points out that DISTAR is more than just a remedial approach—that it is appropriate for all children; it summarizes the results of the Follow Through National Evaluation; it details the San Diego City Schools litigation

in which DISTAR was all but mandated for disadvantaged students in that district; and it touches on the tactual hearing and vocabulary analysis projects.

Of the remaining six chapters, four highlight programs which have achieved continuous success over a period of several years and two detail schools which, while judged successful at one time, are now the focus of considerable controversy. Each of the successful programs shares a number of program components with Direct Instruction. These are well-articulated in the final chapter on the Modesto Plan and include such variables as principal leadership, training and supervision of teachers, efficient use of available time, and a firm commitment to ensuring that students achieve. Benjamin's review of the programs which have faltered following earlier success is also instructive to those who want to avoid a similar fate. In both cases, the actions or inactions of the school principal seemed directly related to the programs' failures.

Making Schools Work is critically important for teachers, school supervisors and administrators, school board members, teacher trainers, educational researchers, parents, and other taxpayers—it is a book for the American public. It is both a documentary on the recent history of American urban education and a prescription for bringing such schools to criterion on their one critical assignment—actually teaching all the children.

Stan Paine

The book is available through the Association at $12.95 plus $1 shipping until November 1, 1981. It is also available in many bookstores.

Why Johnny Still Can't Read

Flesch, R., *Why Johnny Still Can't Read*. New York: Harper & Row, 1981.

Why Johnny Still Can't Read is a scathing indictment of what Flesch calls the "Look-and-say approach to teaching reading." The book begins by documenting the massive extent of illiteracy in this country. Flesch summarizes a U.S. Office of Education sponsored study which concluded that 23 million people between the ages of 18 and 65 could not read a want ad or a job application. Flesch attributes this huge illiteracy rate to the fact that 85% of the schools in this county use programs based on the look-and-say approach. Flesch does not equivocate in his conclusion that because schools are using the look-and-say approach instead of phonics, "America is rapidly sinking into a morass of ignorance [p. 1]."

Flesch does not deal in vague generalities. He specifically names the programs likely—and those *unlikely*—to be effective. The effective programs, referred to as "The Phonic Five" are Addison

Wesley, Distar, Economy, Lippincott, and Open Court. All other major reading programs are included in a list entitled "The Dismal Dozen." Flesch considers all twelve entries on this list to be look-and-say programs.

In a chapter entitled "Look and Say Exposed," Flesch summarizes the research results on the two approaches. Since 1911, there have been 124 studies comparing the effectiveness of phonics-first and look-and-say programs. Every one of these studies showed results in favor of phonics-first. Flesch specifically discusses Project Follow Through and the favorable results the Distar programs produced.

These overwhelming results lead to the question, "Since phonics are clearly superior, why are 85% of the schools still using look-and-say?" In a chapter entitled "The Great Coverup," Flesch suggests that leading educators and publishers of look-and-say programs have conducted a thorough and on-going coverup of the re-

search findings. Whenever a new exposure of the look-and-say approach is threatened, someone—usually a professor on the payroll of a look-and-say publisher—is sent into the breach to defend the system. This has been going on year after year for over 50 years until today even some of the most experienced people in the field are confused or uninformed about certain areas of their own profession [p. 40].

The remainder of the book is devoted to "the ten alibis" used by look-and-say educators to defend their approach. The alibis include such topics as: the child isn't ready to read, teaching phonics is merely teaching word calling, no one method is best, English isn't phonetic, and the child can't learn because of his home environment. Every Direct Instruction teacher has heard these arguments for the look-and-say approach. Flesch examines each of these excuses and offers very compelling arguments to refute each one.

The only major criticism of the book, from a direct instruction standpoint, is that Flesch seems to over-generalize that any phonics-first program will be effective with all children. He states that if a school is using any of "The Phonic Five," children will not have problems learning to read. Flesch never looks at critical instructional variables such as rate of introduction of sounds, teaching of essential preskills, amount of controlled practice, and cumulative review.

Why Johnny Still Can't Read is an excellent resource for comparing phonics-first and look-and-say programs. Flesch points out very clearly and forcefully that any phonics-first program is much more likely to be effective than a look-and-say method. Hopefully, Flesch will begin now to look in more detail at a comparison of the phonic programs and their relative effectiveness with all children, even the lowest performers.
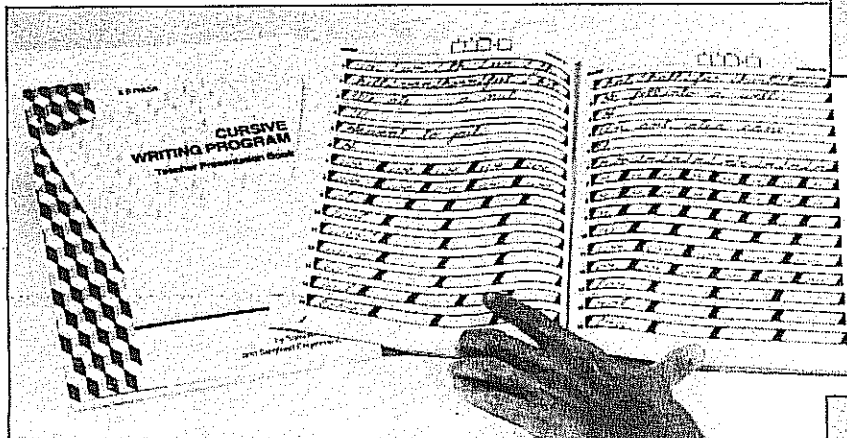
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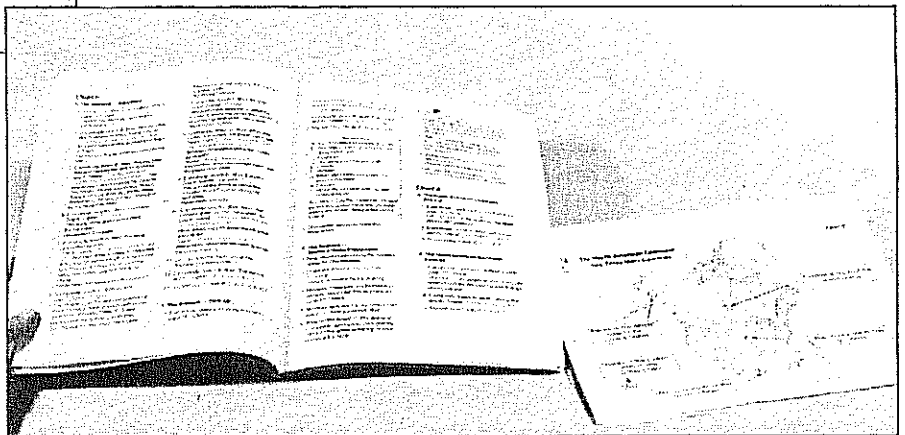
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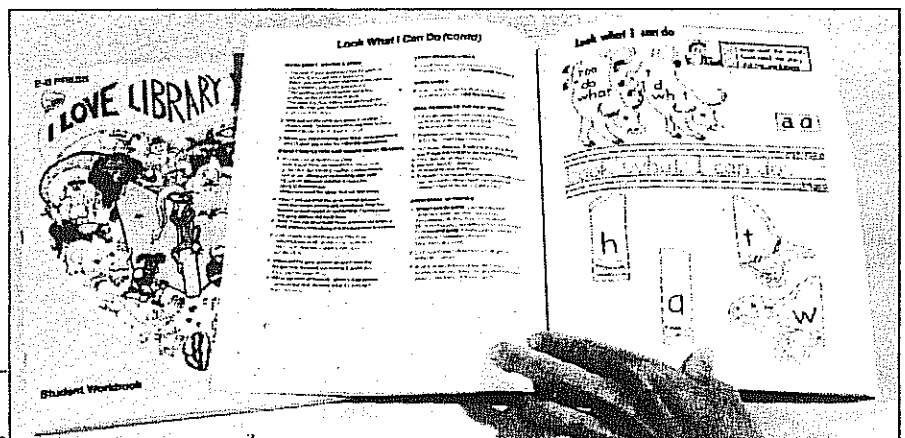
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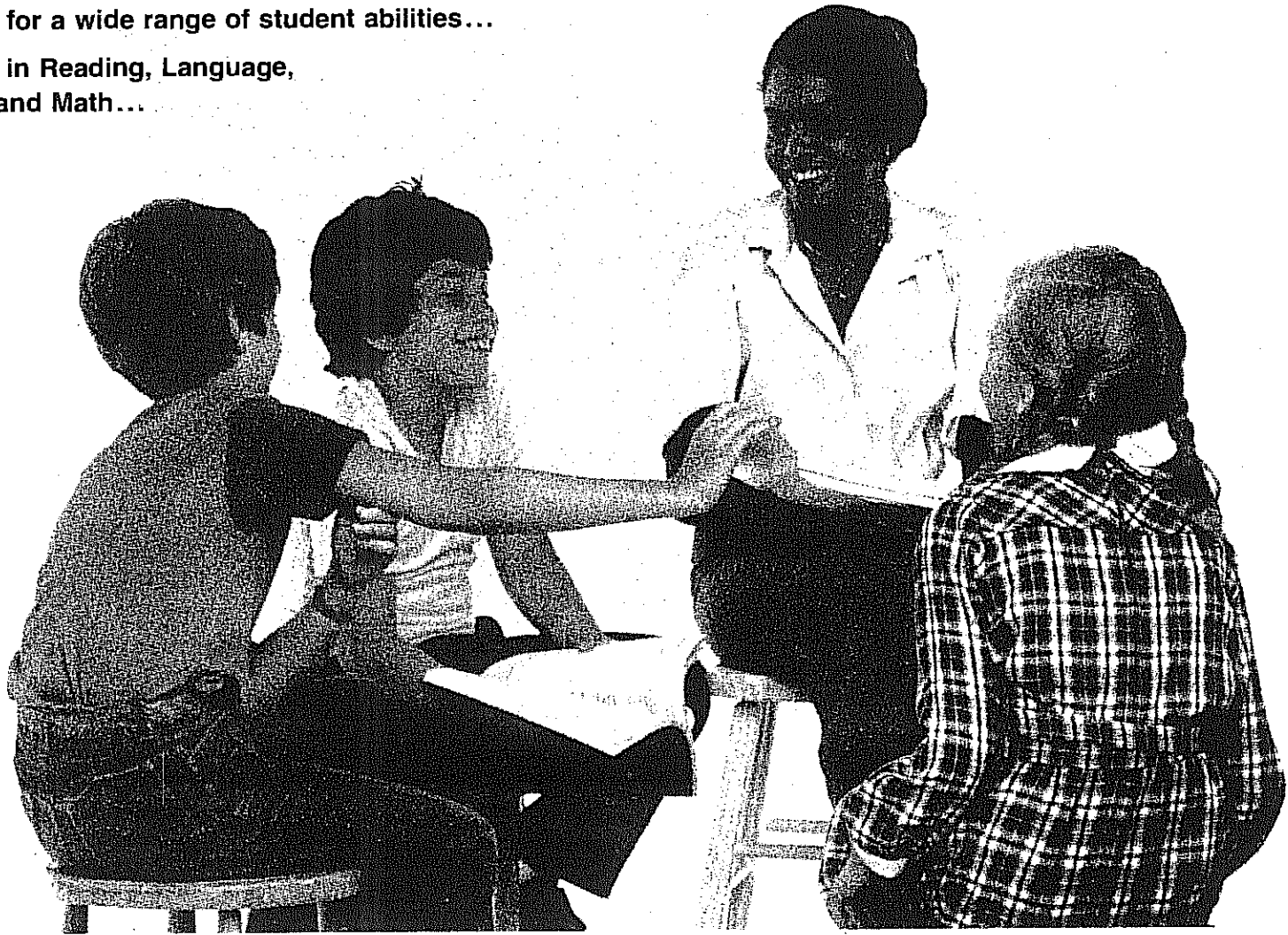
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Maintaining the Scientific Spirit in Direct Instruction:

A Comment and a Case Study

Academic Games to Reinforce Academic Skills

By Stan Paine
Joann Radicchi
Doug Carnine

Ed Kameenui
University of Montana

In a recent issue of the *Educational Researcher* (Volume 10, Number 6, June/July 1981), Maxine Greene, President of the American Educational Research Association, examines the many forces that either serendipitously or systematically appear to be surfacing in synchrony with President Reagan's proposed budget reductions in educational research and development. According to Greene, these forces—which include recent attacks upon the public schools for their apparent failure in guaranteeing literacy, the timely dissemination of "the Coleman findings on the presumed 'superiority' of private high schools" in increasing academic achievement and the campaigns for voucher plans and tuition tax credits—appear to constitute a "created climate" that is "forcing what may well be an artificial rain (an acid rain, it appears) of conservatism and belt tightening and lack of human concern" (p. 3).

In calling AERA constituents to action against the "acid rain," Greene suggests a "need to turn outward, as a community, in seach of new relationships . . . with others . . . who understand—or who may be brought to understand—what research signifies, especially in what may be the worst and most uncertain of times" (p. 3). Greene also calls for "developing a language by means of which what is known can be communicated, by means of which the scientific spirit can be kept alive" (p. 4).

The DI Newsletter signifies an effort on the part of one small community concerned with excellence in teaching to "turn outward" in "search of new relationships." Direct Instruction also represents a "language" that allows what is known to be communicated and a language that embraces and promotes the "scientific spirit" as called for by Greene.

For purposes of helping to keep the "scientific spirit" alive in the Direct Instruction community, two reading comprehension studies conducted in elementary grade classrooms will be described. Two studies by Douglas Carnine, Nancy Woolfson, and Jan Gollick of the University of Oregon and Ed Kameenui of the University of Montana investigated children's ability to make inferences. The first study (Study 1) was designed as a descriptive study to determine whether the systematic variation of certain textual dimensions would affect 196 4th, 5th, 6th graders and college students' ability to make inferences during passage reading.

Passages for the descriptive study were constructed to revolve around a specific problem statement, e.g. a story character says to a travel agent, "All I care about is riding on fast planes." After reading the passage, students were required to choose between two inferences that were possible responses to the problem statement (e.g. should the story character in the example previously given choose Plane A or Plane B?). The probability of students making a particular response was influenced by the textual dimensions which were systematically included or omitted from the passages. The textual dimensions involved the presence or absence of an explicit rule (e.g. the plane that spends the shortest flying time flies the fastest),

distracting information (e.g. Plane B is a huge jet. It has one of the fastest engines built. It carries 300 passengers, serves a great meal, and shows a movie), irrelevant information (e.g. "Hawaii is a nice place," said John, "but I'm sure I want to go to San Francisco."), the directness of the information (e.g. Plane A spends ½ hour flying to San Francisco and Plane B spends an hour), and the degree to which information segments were clustered or dispersed in the passage.

The results of the descriptive study suggest that older students are more adept at processing the text dimensions included in the study. This is not a surprising finding. The performance of all subjects, even college students, was poor on the passages with distractors, indirect information, and separated information. Although the passages were contrived, the proportion of correct inferences seemed surprisingly low for college students. All subjects also did relatively poorly on passages which had direct information but no rule, dispersed information, and distractors. Passages with a rule, direct information, and no distractors, were the easiest.

Since Study 1 was exploratory, looking at only some of the many possible combinations of format variables, any conclusions are tentative. Distractors, at least for the present passages, seem to be potent textual dimensions, as does directness of information. The presence of a rule seems to have a slight effect, but only in the context of direct information. Possibly the difficulty caused by indirect information (as well as by distractors) outweighs the influence of an explicit rule. A more thorough investigation of these and other textual dimensions presented in new combinations and embedded in different passages would be of interest.

Even though the results from this descriptive study are hardly definitive, they were clear enough to warrant research on *teaching* students to deal with the dimensions of indirect information and distractors. This was the intent of the second study (Study 2).

The purpose of the experimental study (Study 2) was to compare a highly structured prompted questioning strategy with a corrective feedback strategy and a no-intervention strategy. Thirty-six fifth grade students were randomly assigned to one of the three groups. Nine stories of approximately 250 words each were used in the study. Three were used for screening. These three stories plus three more were used for training, resulting in six training stories. The three remaining stories were used for the transfer test. In all nine stories the components appeared in the same order: problem statement, irrelevant information, rule, distractors, indirect information, and finally the question that called for an inference.

Children in the prompted questioning strategy group were taught to identify the various components in the story through a sequenced series of questions. For example, in the Plane story referred to previously, the trainer would utilize the following strategy:

1. *Statement of Problem*
   Trainer: "What's most important to John?"

Child: "All he cares about is flying on fast planes."
2. *Discrimination Questions*
   Trainer: "Is riding on a jet that has great meals important to John?"
   Child: "No."
   Trainer: "Does John care if the jet shows a movie?"
   Child: "No."
3. *Review of Problem Statement*
   Trainer: "What's most important to John?"
   Child: "Flying on fast planes."
4. *Identification of Rule*
   Trainer: "What does it tell you in the story about flying on fast planes?"
   Child: "The plane that spends the shortest time flying flies the fastest."

In order to solve the problem, the children were also taught to identify and convert indirect information in the story.

Children in the corrective feedback group read the stories and answered the questions at the end of the stories. If children respond correctly to the questions they were asked to cite verbally or point to the problem statement, rule, and/or indirect information. If the subject responded incorrectly, the experimenter provided corrective feedback by supplying the correct answer.

The No-Intervention Control Group did not receive any training. Subjects assigned to this group participated only in the screening and transfer test sections.

The results of the study suggest that a highly structured prompted questioning strategy is more effective than a corrective feedback strategy and a no-intervention strategy. Study 2 was not designed to separate out the effects of program design and teaching behaviors, but rather to determine whether an instructional package could improve students' ability to draw inferences based on text containing distracting, indirect and dispersed information. The results indicate that a package composed of specific teaching behaviors and carefully designed practice examples can be effective—at least with contrived passages and at least in comparison to traditional practice and no intervention.

If the combination of specific teaching behaviors and restructuring of instructional material accounted for the significantly higher transfer test scores for the prompted questioning group, specific materials and teaching guidelines may be useful in increasing student achievement in reading comprehension. This might be one response to the call for scientifically based teaching manuals for effectively teaching reading comprehension.

In the last three years, Doug Carnine and Ed Kameenui—along with many other students and staff members at DI Follow Through—have attempted to keep the scientific spirit alive in Direct Instruction by conducting numerous studies in reading comprehension, math, and other areas. If we and other researchers can continue this effort, we will at least be reaching out to communicate what research signifies and what we have learned from it. And we will be taking action against the "acid rain" of rapidly diminishing human concern.

The purpose of this study was to determine if intermediate grade children would increase the rate of multiplication problems they completed accurately when given the opportunity to play a game that was academic in content contingent upon such performance. Four fifth graders were identified by their teacher as unmotivated in math. Subjects were given 10 minutes each day to work on a multiplication worksheet. When baseline data were stable, subjects were introduced, in multiple-baseline fashion, to an academic game upon meeting criterion. The criterion was the median score of the past three days' data for each subject. Visual inspection of the graphed data shows that each subject increased the rate of correct problems completed during intervention over baseline conditions. Social validation of the procedure by the subjects, their parents, and their teacher suggests that academic reinforcement can be an enjoyable and productive way to promote academic growth. (Manuscript under editorial review.) The figure below shows subjects' performance.

Baseline Academic Reinforcement
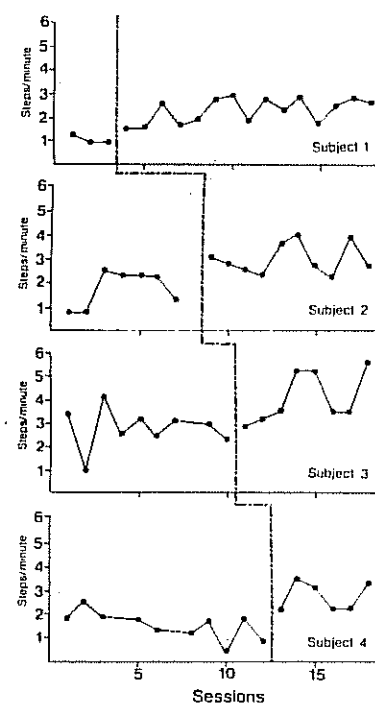
Minutes of the First Annual Meeting of the Association for Direct Instruction

The First Annual Meeting of the Association for Direct Instruction was held on Thursday, August 20, 1981, at Sheldon High School in Eugene, Oregon, with Wes Becker chairing the session and approximately 85 members in attendance.

Becker opened the meeting by identifying the purposes of an Association for Direct Instruction—to provide support among members for the use of Direct Instruction—and by relating a brief history of events which led to the formation of the organization. Becker also described the precedent for this group set by the Australian Association for Direct Instruction, which has more than 300 members with subgroups in each of that country's six states. Becker proposed the goal of establishing state or regional direct instruction affiliates of ADI in this country, as well. Becker then presented a slate of seven nominees for positions as ADI's Board of Directors and introduced each of the candidates. This slate of Directors, ratified by the membership, includes:

Wes Becker and Doug Carnine, 3 year terms

Leslie Zoref, Randy Sprick, and Linda Carnine, 4 year terms

Jane Coté and Stan Paine, 5 year terms

Stan Paine provided a report of membership. At the time of the meeting, the Association had enlisted 206 members. At this writing, membership stands at 239.

Jane Coté, Eugene teacher and newly designated board member, proposed several areas of focus for the Association from the perspective of a teacher: (1) helping teachers keep abreast of recent research relevant to teaching; (2) facilitating contact with other teachers for purposes of feedback and information exchange; (3) addressing the problems created when administrators state that Direct Instruction programs can no longer be used in their schools; and (4) dealing with the issue of transitions from Direct Instruction to less structured (basal) programs. Doug Carnine stressed the importance of administrator involvement in the Association and briefly discussed how this might be encouraged. Finally, Stan Paine called for input from members on directions for the organization.

The meeting was highlighted by the presence and presentation of Liliana Mayo of La Punta, Peru, Mayo offered a moving account of how she and her colleagues are providing education[1] services to severely retarded and autistic children in Peru using the technologies of direct instruction and behavior analysis. Perhaps the most impressive feature of their work is the thoroughness of their efforts and the extent of their impact, given the paucity of their resources. Her committment to providing educational excellence for her students provides an exemplary model for us all.

The meeting was adjourned amid warm smiles and enduring applause, and offers to help. (See related article on Liliana Mayo's work.)

Direct Instruction After Follow Through—Is There Life After Death?

• We must identify and procure new sources of support for model-level (sponsor) demonstrations to provide continued development and refinement of the Model, continued research and evaluation activities, and expanded training and consulting services.

In what ways can we broaden the meaning of Direct Instruction? Doug Carnine has suggested that Direct Instruction can be viewed broadly as philosophy and a set of procedures ". . . which reflect a dedication to excellence in education and which are realized through the application of knowledge about school effectiveness."

School effectiveness *can* be achieved, but only through the daily actions of teachers, supervisory and support personnel, administrators, and parents.

When these actions are coordinated to provide effective education for *all* students in a classroom, we have an instance of the concept, "direct instruction." Direct Instruction is more than DISTAR, more than the Direct Instruction Follow Through Model, and more than the collected research on teacher effectiveness (as Rosenshine uses the term). It *can* include precision teaching (Kunzelmann, 1970); responsive teaching (Hall, Copeland, & Clark, 1976); structured teaching (Sloane, Buckholdt, Jenson, & Crandall, 1979); computer-assisted instruction; or any other procedure which is positive, measurable, replicable, and effective. In short, the philosophy of Direct Instruction assumes that education is extremely important and should be taken very seriously; and our current knowledge should be used to maximize the effectiveness of schools in achieving their goals.

There exists now in the published behavioral literature an effective technology for providing educational services to children in preschool through grade 3 (or through grade 6, depending on how easily convinced you are). Much of this technology is already embedded in the Direct Instruction Model. Further development and refinement of the Model could incorporate other elements from precision teaching, responsive teaching, structured teaching, and the Behavior Analysis Model of Follow Through. These approaches are not mutually exclusive. Each of them has something to offer to the goal of educational excellence in everyday life. If they could be combined with other knowledge regarding instructional time, teacher effectiveness, and student achievement (synthesizing the best of what we know about behavioral technology in education), we would have only three tasks remaining—packaging, field testing, and marketing of a *generic* Direct Instruction Model. Such a model would have a phenomenal potential for impact on the practice of education.

What kinds of challenges do we face if we pursue this goal? One major challenge is presented by education's strong resistance to change (Emrick & Peterson, 1978). This resistance is in *sharp* contrast to the evolution of other fields where new knowledge is rapidly disseminated (e.g., medicine, engineering, communications). The gap between program potential and actual practice is characteristically very wide in education. Adoption typically follows innovation by many years. Education *could* be a field of rapid progress, if current technology were used to attack many of the problems facing education today. Instead, education is a field of bureaucracy, dormancy, disorganization, and occasional regression.

Why do so many other fields progress rapidly and continuously when education progresses slowly and discontinuously? The reasons seem to be: (1) the differences in the contingencies each is under; (2) the availability of alternative goods or services in each type of enterprise; and (3) management structures.

In what we typically call "business," people are motivated to produce good products, provide good services, be creative and innovative, and generally treat the customer as "number one." Some of their incentives to meet these goals are competition with other producers or providers and reinforcers which are generalized, strong and contingent. Also, management takes responsibility for decisions at all levels.

In education, people are generally *not* motivated to provide good services, be creative or innovative, or treat each consumer (student) as an important person.

In education, we see not competition, but *monopolies* of service provision. This structure greatly reduces the incentive to excel. And we see reinforcers which are not strong, not generalized, or, most likely, *not contingent* on good work. Finally, management is best described as a "loosely coupled system" whose responsibility for what goes on in the classroom is never clearly delineated at any level of management.

What are the implications of this situation for education, in general, and Direct Instruction, in particular? I believe there are at least three distinct lessons. First, we should work to promote the introduction of competition into education. One way to do this is to support the notion of providing tuition tax credits or providing vouchers to parents to increase their control over their children's education. Second, we should work to provide contingent reinforcers to persons working in education. Widespread public recognition for producing and documenting significant educational gains for students and equitable merit pay plans for teachers and administrators are two possible examples of such a practice. Third, we need to place the responsibility for educational leadership on principals and the administrators above them.

Is there life after death? I recently had the opportunity to talk with several members of the clergy and they assured me there was, indeed, life after death, but that you had to believe in it and that you had to work for it to achieve it.

Will there be Direct Instruction after Follow Through? I submit that there *can* be, but that we must believe in it and that we must work for it to achieve it. Your involvement in the Direct Instruction Association and your activities as a "missionary" for Direct Instruction will help to achieve it.

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