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ADI NEWS

Volume 4, Number 1 | Association for Direct Instruction, P.O. Box 10252, Eugene, Oregon 97440 | Fall, 1984

ADI Makes Excellence In Education Awards at Annual Conference Closing

Awards for excellence in contributions to the application of DI technology to Education were presented for Excellence in Teaching, Excellence in School Supervision-Administration, and for Excellence in University-Level Research and Teaching. Siegfried Engelmann also made a special award to Gary Davis who has worked with us since 1968.

Excellence in Teaching

Jane Dougall made the presentation for Excellence in Teaching, honoring Jan Hasbrouck of Springfield, Oregon (see Jan's letter to the Board on the next page). Jan has worked in the field for 10 years after receiving her master's degree in Special Education from the University of Oregon. While working on her MA, she served as trainer within the Follow Through Project. She has been a reading teacher in two school districts since then. During this time Jan has encouraged and supported other teachers in the use of Direct Instruction programs. When administrators tried to eliminate the use of these programs over teacher protests, Jan was there leading the fight. As sometimes happens, the programs were eventually eliminated and Jan stepped in to help others write the supplemental lessons needed so that low performers could learn to read in spite of the basal readers. Jane Dougall concluded her presentation with, "Jan has been a model to me in the caring and determination she has shown over the years. Help me welcome and congratulate the 1984 Direct Instruction Teacher of the Year—Jan Hasbrouck".


JAN HASBROUCK

Excellence in School Administration-Supervision

Siegfried Engelmann presented the award for Excellence in School Administration-Supervision to Roberta Weisberg of Tuscaloosa, Alabama. Engelmann spoke of how Roberta and her husband Paul wanted to learn everything about DI when they spent leaves at Oregon in 1976. They observed, they taught, they took classes, and when they went back home, they accomplished what they had set out to do. Roberta was nominated by 20 teachers and principals working 12 schools in Tuscaloosa. We quote from their nominating letter:

"Ms. Weisberg is currently the Compensatory Program Coordinator in the Tuscaloosa, Alabama city school system.

In 1976, Roberta spent a school term learning about Direct Instruction at the University of Oregon. On her return to Tuscaloosa, she enthusiastically began to convince school system principals that DI programs were needed in the schools where children were not learning. With the cooperation of one principal and two or three teachers, Weisberg was able to initiate a pilot program. Within three years, thanks to her continual encouragement and devotion, the whole school was using Direct Instruction.

As test scores at this school began to improve, teachers and other school principals began to be interested. By this time, Roberta had conducted three small DI training workshops and was instrumental in convincing the school system administration to purchase materials for teachers who wished to participate in the DI instructional program. Roberta maintained close contact with all of the participants in the training workshops. She was available during the school day, making classroom visits and assisting in teaching. During the evenings, she spent hours on the telephone discussing problems with her trainees to help them with the stumbling blocks they encountered.

In 1981, the Tuscaloosa City School System was required by a Federal Court order to upgrade the quality of education in three elementary schools that had black student populations. Roberta campaigned tirelessly to see that Direct Instruction programs were included as the major programs in this effort. As a result, the court order mandated that DI programs be taught in these three schools to ensure that all the children affected had the opportunity to succeed in achieving academic skills. Now, at the end of the third year of the program, the test scores of students at these schools have shown a marked improvement.

The small training sessions that were first conducted by Ms. Weisberg for eight-to-fifteen people now accomodate 30 or more teachers and administrators. People from other school districts are also attending Weisberg's workshops and work with her as they begin to use the DI programs. Through her effort, DI is established in most of the 21 schools in the Tuscaloosa City School System.

Roberta continues her personal interest in every person who is trained in the Direct Instruction method. She assists in classrooms as well as devoting a considerable amount of off-hours time giving advice and support. She is an exceptional individual who is dedicated to meeting the educational needs of all children. Clearly, she is willing to devote the long hours where and whenever she is needed. By participating in workshops and meetings, she expands her knowledge of DI practice and theory. And she shares her experience with others. In May 1984, for instance, Roberta served on a panel at the meeting of the Association for Behavior Analysis, where she described her work in implementing DI in the Tuscaloosa School System.

We have nominated Roberta Weisberg for the ADI Excellence in Education award because we are convinced she deserves recognition, not only for what she has accomplished for our school system, but for what she has contributed to our professional growth. We were, at the beginning, teachers struggling with materials and programs we could clearly see were ineffective. Since our initiation in Direct Instruction by Ms. Weisberg, we have seen progress in our students that we doubt could have been achieved through other approaches."


ROBERTA WEISBERG & PAUL WEISBERG

The ADI Board agreed with the recommendation and was pleased to name Roberta Weisberg as Administrator-Supervisor of the Year.

Continued on Page 2

Dear Editors:

I am a sustaining member of ADI and would like to thank you for the ADI NEWS. It's interesting and informative and it gets better with each issue. Keep up the good work!

I am presently reading Ziggy and Doug's *Theory of Instruction*— a magnificent piece of work. It should greatly influence future educational research and design of instructional programs. The guy's a genius.

And finally, is it possible to get a list of ADI members in Ohio? Or, am I the only member from Ohio? I agree with Dr. Donna Dwiggins that we need a linkage network with a representative from each state. I would like to be part of such a network. It would be nice to communicate with other ADI members.

Sincerely,
Robert M. Long
School Psychologist
1743 Bishop Hill Road
Chillicothe, Ohio 45601

Dear Bob:

It's been along time since we've seen each other in Dayton.

The three other Ohio members are:

James H. Cowardin Ph.D.
2401 Buckley Road
Columbus, OH 43220

Phyllis B. Goldrich
23871 Harms Road
Cleveland, OH 44143

Belinda Lazarus
1252 Fairgreen Drive
Lima, OH 45805

Also, Ed Kameenui is one of our graduates now at Purdue:

Ed Kameenui
Dept. of Spec. Ed.
Purdue Univ. SCC-E
West Lafayette, IN 47907

If you get too lonely, come to our summer conference.

Regards,
Wes Becker

Dear Editor,

I have been a DI teacher for four years now. I will be teaching hearing-impaired elementary students next fall.

I would appreciate any information regarding the use of DI programs with hearing-impaired students. I hope to do some research in this area and will gladly share my results with you.

If any of your readers have experience in this area, their knowledge would be invaluable. Please write or call collect.

Laurel Cruise-Alkenbrack
1-613-354-3887
210 John Street
Napanee, Ontario
Canada, K7R1R6

Ed. Comment. We hope some of you will call or write on this. We would appreciate written comments for the next DI NEWS.

ADI 1985 Conference will be August 5th to 9th

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Editors	Wes Becker
	Stan Paine
Associate Editors for Research	Ed Kameenui
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ADI Awards

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Excellence in Research

Wes Becker made the presentation for Excellence In Research to Dr. Paul Weisberg of the University of Alabama in Tuscaloosa. Wes initially pointed out that the decision to nominate Paul had been made prior to receiving the nomination information on Roberta, and was based on his preschool research which was reported in the Winter 1983-84 issue of the ADI NEWS. The following is taken from Wes Becker's presentation.

"The award for excellence in research goes to Paul Weisberg for his outstanding research on the preschool education of poverty level children. Paul grew up in New York City, attended CCNY, George Washington University, and the University of Maryland, where he received his Ph.D. in Psychology in 1962. Since 1968, he has directed the Early Childhood Day Care Center at the University of Alabama. His publications are numerous.

Before finding Direct Instruction, Paul went through all of the ways not to teach reading at the preschool level with poverty background kids—including meaning emphasis approaches common to basal readers. I quote from Paul:

'In mid 1975, we observed a *Distar Reading I* program in a rural all-black school. The teacher's training consisted of a weekend workshop. Her pacing was marginal and she spoke in a monotone, hardly ever challenging the children. We worried about all those signals and drill and teaching from scripted material. Yet, the children didn't seem to mind and, to our astonishment, they energetically and carefully sounded out each word' (ADI NEWS, Winter 83-84, p. 16). About this time, Weisberg was also impressed by a movie of the kids from the Bereiter-Engelmann preschool and by some early data on DI in Follow Through. Paul and his wife spent their sabbatical year with us at the University of Oregon learning about and teaching DISTAR. Upon returning to Alabama, the preschool was converted to DI methods.

The data collected in the next seven years are truly remarkable. His teachers had their poverty-level children all day in a full-year program (not half-day for 9 months). He used the continuous progress tests developed by Becker and Engelmann for Follow Through to monitor student and teacher progress. His data show scores on these tests range from 85% correct (unfamiliar word reading) to 97% correct (sound identification). During 1980, he gathered comparative data on similar children from a Head Start preschool, the University Home Economics preschool, and entering kindergarteners and first graders in local schools without preschool. These comparison groups did not differ from each other on the achievement tests and so were combined by age groups (K-Aged and 1st-Starting Aged). (Four-year olds after one year are called K-Aged by Weisberg and after two years, 1st-Starting Aged.) Weisberg carefully documents the entry comparability of his groups and their skill deficits. On the Slosson Intelligence Test over the past four years, 58 students in his preschool averaged IQ's of 87, with only 19 percent higher than 100.

The DI trained 1st-Starting-Ag group was consistently above the 98 percentile (3.4 grade equivalents) (tv standard deviations above the Nation average)! Those with two years of DI (= 31) averaged 3.8 grade equivalent The K-Aged students averaged betwe the 77th and 98th percentile across pr gram years. In comparison to pr studies of children with two years DISTAR in preschool, these are tl highest performances yet obtained. Tl Bereiter-Engelmann preschool reach 2.6 G.E. in their second group ar Anderson in Salt Lake City reached 2 with slightly above average childre The added time in Weisberg's prescho was obviously used to advantage.

Comprehension skills were tested u ing end of first grade tests c Metropolitan Achievement Tes Median Grade Equivalents across pr gram years 1st-Starting-Aged childre were:

Word Knowledge 2.1
Word Analysis 3.0
Reading Sentences and Stories 2.4
Total Reading 2.2

Non-DI groups performed at a chanc level.

This is truly remarkable demonstr tion of what can be done in teachin poverty-level children. It gives me gre pleasure to name Paul Weisberg the AD Researcher of the Year."

To the ADI Board of Directors:

On Friday, August 10, the last day o this year's Direct Instruction conferenc I received a tremendous shock and great honor: I had been chosen the 198 Direct Instruction Teacher of the Yea My surprise at that moment was so con plete; I was overwhelmed. It was onl later that the reality of what had ha pened began to sink in and I wa chagrined in recalling that when I wa presented with the award by Ja Dougall, I did not even acknowledge m pleasure nor give my thanks. I woul like to rectify that now.

Randy Sprick, in his opening remark stated that the Association had decide to give awards to help encourage thos out in the field who are using DI an alleviate some of the feeling of isolatio that they may feel. In this aspect yo have been successful. By receiving th additional courage to face those peopl and institutions which may stand in th way of the best possible instruction fo children.

During the awards presentations, was moved by Zig's description of th kinds of odds faced by Gary Davis an impressed by his accomplishments When Gary said that his award was im portant to him because he knew the pec ple who had given it to him, understood exactly what he meant. I ar proud and deeply honored to have bee given this award by people from whom have learned so much and for whom have the highest respect and admiration

Thanks to each of you.

Sincerely
Jan Hasbrouc
Eugene, Orego

Eugene ADI Conference Draws 500!

ROBERT HORNER
Keynote Speaker

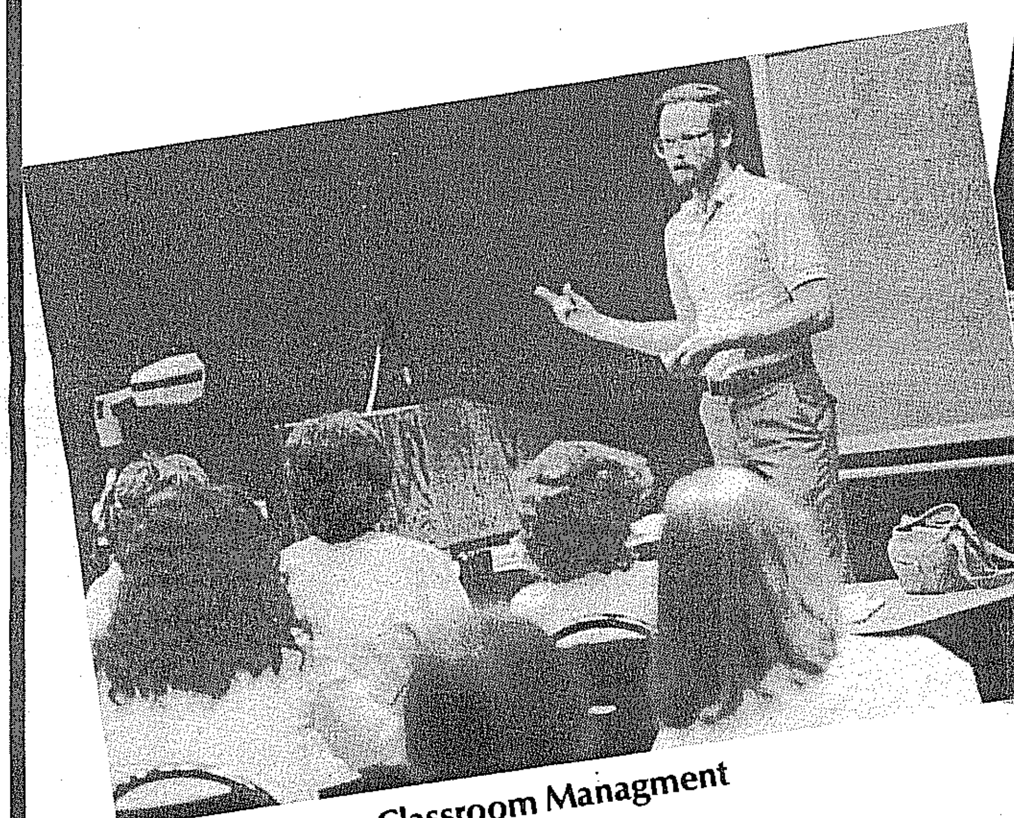
The Tenth Annual Direct Instruction Conference was held August 6-10, 1984, at the Hilton Hotel and City Convention Center in Eugene, Oregon. This year's conference drew 500 participants from across the United States and Canada and from several overseas locations.

As in previous years, the conference featured a variety of training sessions on Direct Instruction programs and informational sessions on Direct Instruction and related educational issues. Highlights included the Monday night picnic, the Thursday afternoon Annual Meeting, and the Friday afternoon closing session and awards ceremony (see the separate article in this issue about the awards recipients).

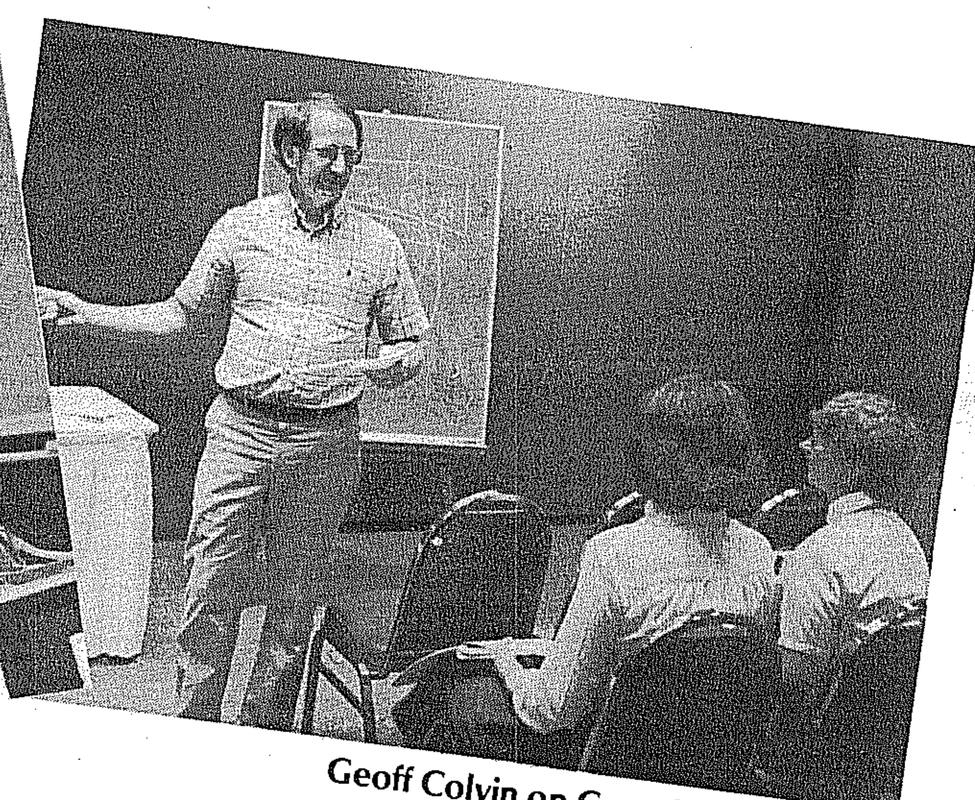
Keynote speaker at this year's Annual Meeting of the Association for Direct Instruction was Robert Horner, Assistant Professor of Education at the University of Oregon and Assistant Director of the University's Specialized Training Program. Dr. Horner's work focuses, in part, on the use of Direct Instruction programming principles to teach generalized functional living skills to severely mentally retarded people (see DI *News*, Vol. 3, No. 4 for an illustration of his research). His presentation pointed out the importance of sound programming in instructional effectiveness and illustrated the range of applications to which direct instruction strategies can be applied successfully.

Buoyed by good weather and good training, the conference participants seem to have had a good week. We hope to see many of them returning and many of you join us for the 11th Annual Direct Instruction Conference during the week of August 5th-9th, 1985. If you would like to offer input for the design of that conference, please write to us at P.O. Box 10252, Eugene, OR 97440.

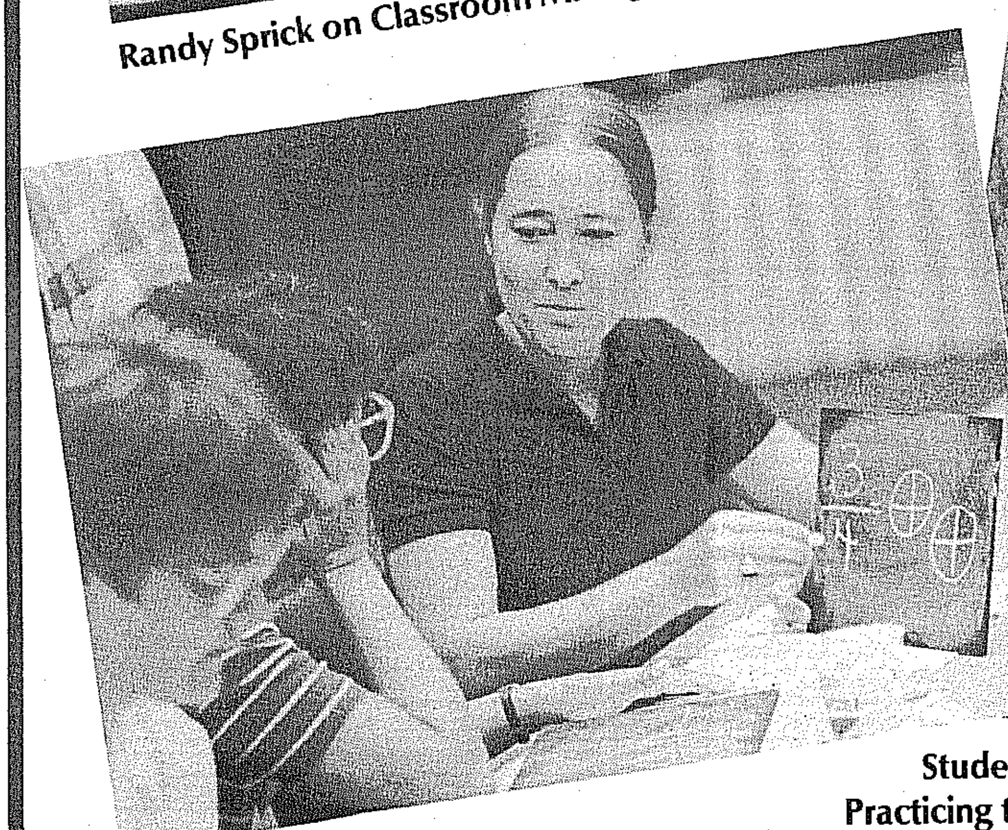
BRYAN WICKMAN
Conference Coordinator

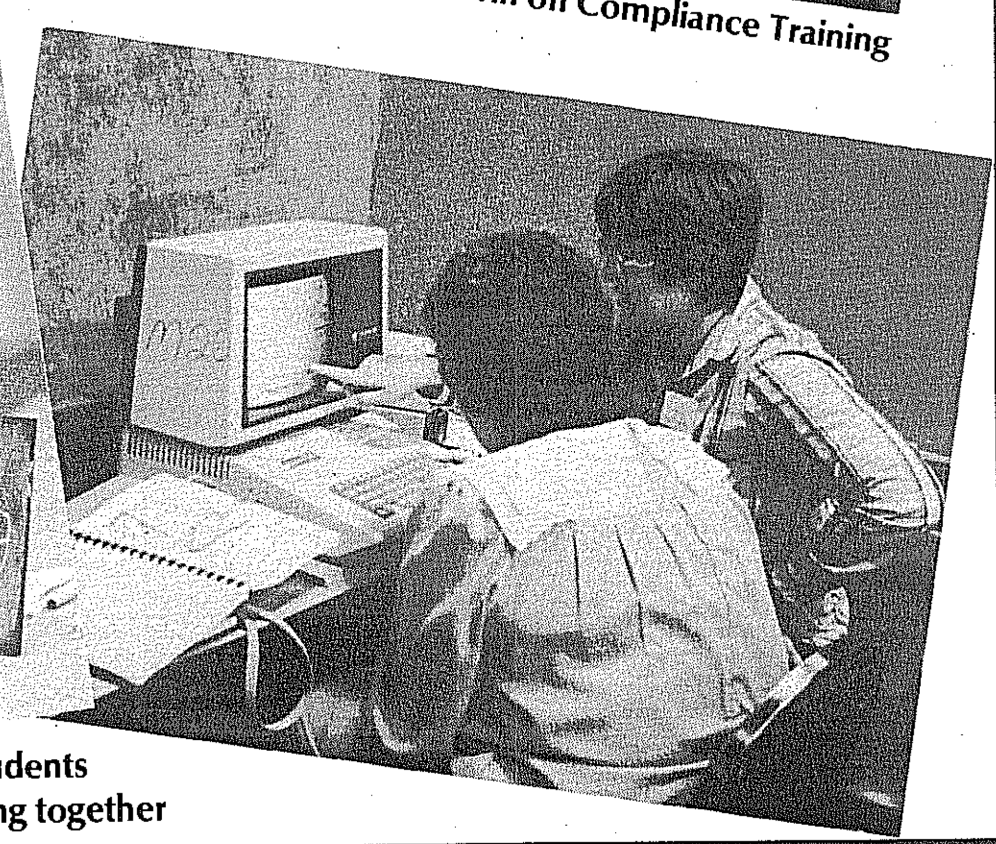


Randy Sprick on Classroom Managment



Geoff Colvin on Compliance Training





Students
Practicing together

A Private DI Pre-school Reports Findings

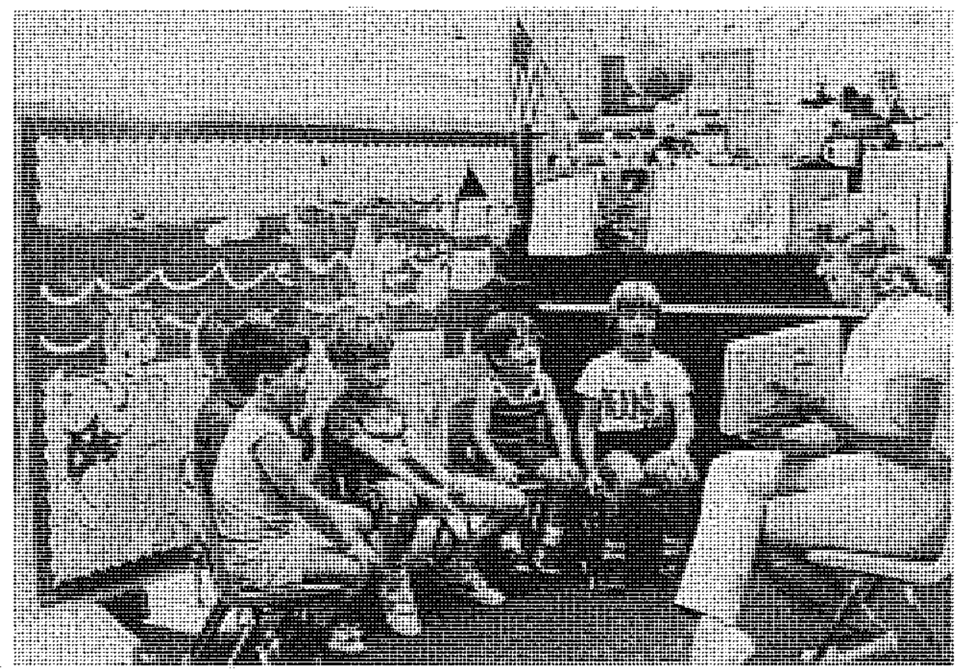
By Bill and Valerie Sandison

PRIME TIME SCHOOL, privately owned and operated, is located in the city of Orange, California. It offers a pre-school, pre-kindergarten and kindergarten program for children ages 2-6 years. The students enrolled represent a broad spectrum of backgrounds. The majority of children are from lower middle income families whose parents' occupations range from semi-skilled to skilled with a few in supervisorial and management positions. Ethnic enrollment in our pre-kindergarten and kindergarten groups include Asian (5.6%), Hispanic (5.6%), Phillipino (11.1%) with a majority being Caucasian (77.7%). There is a large percentage of single-parent families and almost all are working parents. As such, all the children are enrolled at the school on a full-time basis (more than 4 hours per day). Some exhibit behaviors seen in those who are considered to be hyperactive, impulsive, or to have attentional deficits.

In August, 1983, our school introduced Direct Instruction as the basic curriculum for the pre-kindergarten (4 yr olds) and kindergarten (5 yr olds) programs. The 1974 editions of the DISTAR Reading, Arithmetic and Language programs were taught. Both the pre-kindergarten and the kindergarten children were combined in one classroom. Instructional groups were formed based upon the Language Placement Test. An average of 30 children were taught by 2 teachers and the Director of the school. One teacher's aide assisted in the programs primarily with the seatwork. The Director has had extensive experience in public school education with 20 years as a kindergarten teacher. During this time, she has taught the DISTAR programs for 10 years and has had the advantage of participating in many SRA Workshops as well as the DI Conferences in Eugene, Oregon and San Diego, California. The two teachers were new to Direct Instruction. One of these teachers received approximately 3 weeks of pre-service and in-service training on-the-job by an SRA Consultant in the Language and Arithmetic programs. The other teacher was trained on-the-job, by the Director, in both the Reading and the Arithmetic programs.

Since August of 1983, both the pre-kindergarten and the kindergarten children have been taught all three programs on a daily basis (there may have been a total of 10 days when, for various reasons, the programs were not taught).

To determine what effect the programs have on academic achievement, the students were pretested in August, 1983 and posttested in June, 1984. The Woodcock Johnson Psycho-Educational Battery, Preschool Scale was used. This Scale measures achievement in: (1) Letter-Word Identification, (2) Calculation and Applied Problems (Arithmetic), and (3) Dictation (Writing). Nine pre-kindergarten children and 9 kindergarten children, all of whom were enrolled for both pre- and posttesting, are included in this study.



TEACHER: Bridget Ballantine
CHILDREN: (from left) Dennis Canfield, Devin Canfield (hidden), Ricky Corby, Sean Schumacher, Katie Holmes

Table 1

Comparison of Pre/Post Gains on the Woodcock-Johnson Preschool Scale, Skills Cluster Scores

			Total Skills Cluster Scores		
GROUP	N	Months in Program	Age Score Gain	Percentile Rank Gain	Stand. Score Gain (SD=15)
Pre-kindergarten	9	10	1yr-10mos	31	17
Kindergarten	9	10	1yr-8mos	39	20

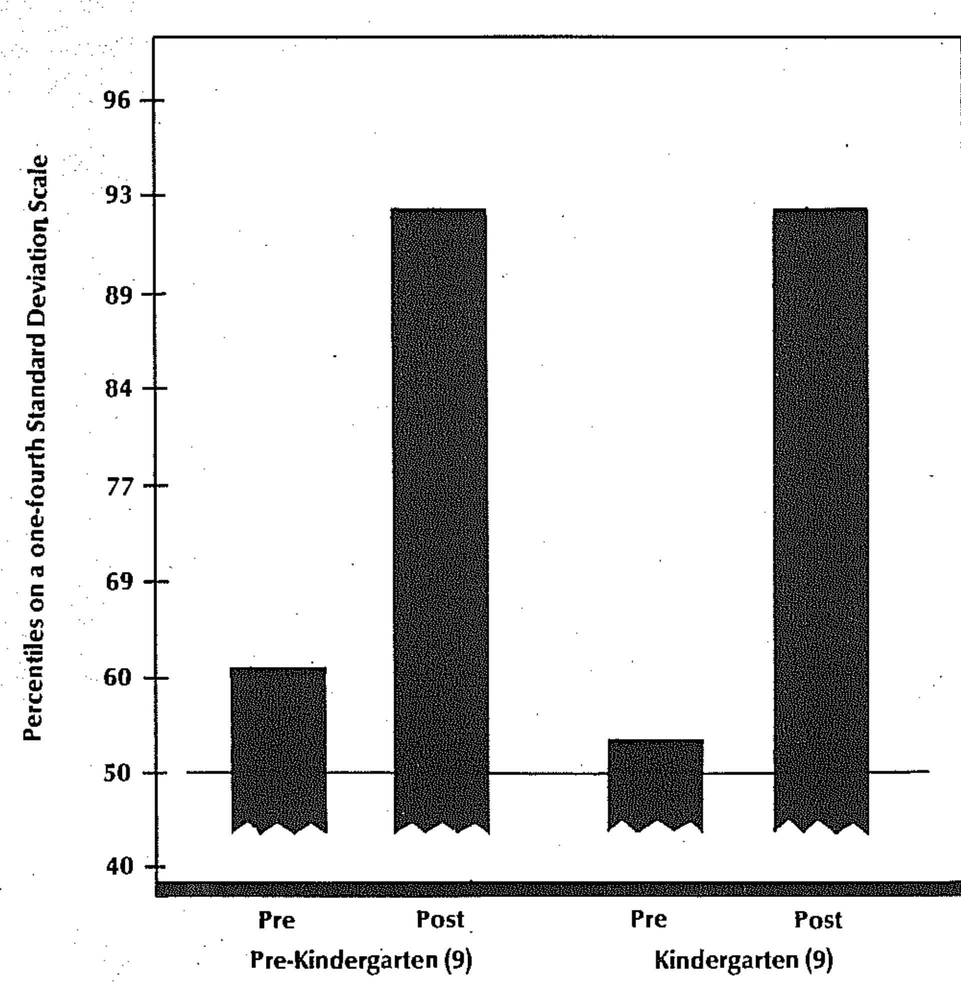


Figure 1

Change on the Woodcock-Johnson Psycho-Educational Battery after 10 months of DISTAR

RESULTS

Table 1 shows the gains of the pre-kindergarten and kindergarten groups on the Woodcock Johnson Preschool Skills Cluster. Overall, the pre-kindergarten group showed a 1 year-10 months (22 months) Age Score gain for 10 months of instruction. On pretesting the mean CA of this group was 4 years-3 months and their mean Skills Cluster Age Score was 4 years-5 months. On posttesting the mean CA was 5 years-1 month and the mean Skills Cluster Age Score was 6 years-3 months. The difference on a t-test was significant beyond the .01 level. The gain in percentile rank from the 61st %ile to the 92nd %ile as well as the gain in standard scores from 104 to 121 also reflect this significant growth.

Overall, the kindergarten group showed a 1 year-8 months (20 months) Age Score gain for 10 months of instruction. On pre-testing, the mean CA of this group was 5 years-1 month and their mean Skills Cluster Age Score was 5 years-1 month. On posttesting the CA was 5 years-11 months and the Skills Cluster Age Score was 6 years-9 months. This difference on a t-test was dignificant beyond the .01 level. The gain in percentile rank from the 53rd %ile to the 92nd %ile as well as the gain in standard scores from 101 to 121 also reflect this significant growth.

Figure 1 shows the results graphically.

These dramatic findings are supportive of the efficacy of teaching Direct Instruction Programs to both kindergarten and pre-kindergarten children. Since both the pre-kindergarten and the kindergarten groups were taught as one group of children, the results strongly suggest that differentiated groupings by CA is not a significant factor in terms of academic achievement at this age level. Further, the gains made with the pre-kindergarten group supports the most recent position of the National Education Association which advocates the lowering of the public school entrance age to four years and introducing these children to academic skills instruction. Based upon this study, the important variables to consider would include a Direct Instruction curricular model, experience and/or pre-service and in-service training in program delivery, and a teacher/student ratio small enough to effectively implement and teach the programs successfully on a daily basis.

Prime Time Schools, Inc.
2237 Orange Olive Road
Orange, California 92665

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- Full page: $200
- Half-page: $125
- Quarter-page: $75

Teaching Generalized Community Skills to Students with Severe Handicaps

- Guidelines for Using Classroom-Based Simulation -

By John J. McDonnell
University of Utah

In recent years the preparation of students with severe handicaps to participate competently in work, personal management, and leisure-recreation activities in community settings as adults has not only become a valued, but expected, outcome of secondary school programs (Wilcox & Bellamy, 1982; Brown et al., 1976). The diversity of activities and settings across which students must perform in order to meet the demands of living in the community is staggering. As such, there is an enormous need to formulate an instructional technology which allows classroom teachers to develop instructional programs that result in generalized performance across varying and continuously changing environments.

One of the most promising approaches to addressing this need is the direct instruction approach to General Case Programming (Becker & Engelmann, 1978; Engelmann & Carnine, 1982). "The General Case has been taught when, after instruction on some tasks in a particular class, any task in that class can be performed correctly" (Becker & Engelmann, 1978, p. 325). General Case Programming is a systematic approach to: (a) defining the class of stimuli across which students will ultimately be expected to perform, (b) selecting instructional examples that sample the range of stimulus variation defined by the class, (c) sequencing instructional examples in order to teach the student to discriminate members and nonmembers of the stimulus class, (d) assessing generalization with nontrained members of the stimulus class, and (e) evaluating the effectiveness of the instructional program via generalization errors made by the student under normal performance conditions.

While general case programming has been evaluated extensively with mildly and nonhandicapped students in teaching reading, math, and language skills, its utility in teaching community survival skills to students with severe handicaps has just recently been explored. Horner, Sprague, and Wilcox (1982) extended the general case technology for use with students with severe handicaps and delineated procedural guidelines that can assist teachers to develop programs that focus on teaching generalized, community-based activities. To date, these procedures have been applied successfully to teach vending machine use (Sprague & Horner, 1984), telephone use (Horner, Williams, & Steveley, 1984), street crossing (Horner, Jones & Williams, 1984), and table bussing (Horner, Eberhardt, & Sheehan, 1984).

These studies validate the effectiveness of general case programming in teaching community-referenced skills, however, its utility has only been assessed with activities in which training in actual performance environments was both logistically feasible and instructionally sound. In reality, training community skills exclusively in actual settings is often unfeasible or unrealistic. For example, the application of general case programming to the activity of grocery shopping would require that the teacher provide instruction in numerous markets that sampled the range of stimulus and response variation presented by all grocery stores. It is easy to imagine the logistical difficulties that such an instructional program would present to a classroom teacher. Further, from an instructional perspective, the loss of control in sequencing and presenting instructional examples in such unpredictable environments would significantly reduce the effectiveness and efficiency of instruction. While general case programming provides a comprehensive theoretical framework for teaching community activities to students with severe handicaps, alternate instructional formats are required in order to increase its effectiveness, efficiency, and utility to classroom teachers.

One such alternative is classroom based simulation. Classroom simulations have been used extensively to reduce the logistical demands of teaching a variety of community-referenced skills (c.f., Page, Iwata, & Neef, 1976; Thompson, Braam, & Fuqua, 1983; Giangreco, 1983; Sarber & Cuvo, 1984). Unfortunately the effectiveness of simulation for individuals with severe handicaps has been mixed (Coon, Vogelsberg, & Williams, 1979; Matson, 1980; Marchetti et al., 1982). Until recently no studies have explored the utility of simulation when it is designed according to general case programming guidelines. Two studies conducted by McDonnell, Horner, and Williams (1984) and McDonnell and Horner (in preparation) employed general case programming strategies to design classroom simulations targeting generalized community skills as the outcome.

McDonnell, Horner, and Williams (1984) taught four severely handicapped high school students to use an adapted paying strategy to purchase grocery items using three instructional strategies including: (a) role playing in the classroom with flash cards designating the amount of purchase, (b) role playing in the classroom with slides of cash registers at different amounts, and (c) role playing with the slides and *in vivo* training in one store. Generalized grocery purchasing was assessed in five grocery stores in which the students had not received training. The results indicated that neither of the role play strategies alone was successful in producing a generalized purchasing skill, only after the slide simulation was combined with training in a single *in vivo* environment were students able to perform correctly in nontrained markets.

A second study (McDonnell & Horner, in preparation) compared the effectiveness of combined simulation plus *in vivo* training strategy with training in a single *in vivo* environment. In this study eight severely handicapped high school students were taught a generalized grocery item selection strategy comparing use of: (a) a combination of slides of grocery store aisles and shelves in the classroom and training in a single grocery store, and (b) training in a single grocery store located near the students' schools. Generalization was assessed in three nontrained supermarkets that sampled the range of stimulus variation presented by all markets in the community. The results indicated that after training in a single grocery store students were only able to locate between 40% and 60% of the target items in the nontrained markets. After training with the combined simulation *plus in vivo strategy*, students were able to locate between 67% and 100% of the items.

These studies support the effectiveness of general case simulations as an adjunct to training in a single community environment. It appears that such an approach may hold promise in remediating some of the instructional and logistical limitations presented by training generalized responding exclusively in natural settings. What is currently needed are empirically tested guidelines that teachers can use to determine when simulation is an appropriate alternative (or addition) to training in community settings, and to design effective and efficient simulation formats. The remaining sections of this paper discuss when and how to use classroom simulation based on work by Horner, McDonnell, and Bellamy (1984).

Simulation Defined

A simulation is a stimulus condition used during training that: (a) does not present the irrelevant stimuli present in natural situations, and (b) presents stimuli that approximate those relevant stimuli found in natural performance settings. For example, training a student to pay for grocery items by bringing an actual cash register into the classroom would be classified as a simulation because the irrelevant stimuli present in the classroom are significantly different from those found in actual markets. Similarly, the presentation of slides of cash registers located in local markets to students in the classroom would also constitute a simulation because the relevant stimuli that should control the student's response in the actual environment are abstracted during instruction. In contrast, repeated trials in an empty checkout stand in a market located near the student's school would not be a simulation.

This definition expands the conventional notion of simulation as a simple re-creation of an environmental or social context. It punctuates the similarities and differences between the stimulus conditions in training and performance settings and emphasizes that student mastery of simulation task is not the same as mastery of the discriminations and responses required for performance in actual environments. In this context criterion performance during simulation must only be viewed as an interim step to performance in the community.

Functions of Classroom Based Simulation

From the perspective of training generalized community skills, classroom based simulation have four functions in increasing both the *effectiveness* and *efficiency* of instruction. These include:

1. *Decreasing the dollar costs associated within community environments.* Many community-based activities require that students (or the school) purchase goods and/or services during instruction. For example, in order to teach a student to purchase lunch at a fast food restaurant, numerous trials of ordering and paying would be required to ensure acquisition. By role playing the steps of ordering and paying in the classroom the actual dollar costs of training could be reduced significantly.
2. *Increasing the number of instructional trials a student receives during training.* In actual community settings the number of trials that teachers can legitimately present to students is often constrained. For example, in the course of a 50-minute instructional period it is highly unlikely that the teacher could have the student locate more than five or ten grocery items in a single grocery store. In contrast, by using slides of store aisles and shelves the teacher could present ten to fifteen times the number of trials during an instructional session.
3. *Increasing the range of stimulus variation presented to students during an instructional session.* The logistical elements of training in community often severely limits the range of stimulus variation that can be presented within an instructional session. For example, it is highly unlikely that during any given instructional period a teacher could realistically access more than a single grocery store in teaching grocery item selection. A basic tenet of general case programming is the juxtaposition of members of the stimulus class that are maximally different from one another yet possess the same critical relevant features (Engelmann & Carnine, 1982; Jenkins, 1961), training in a single grocery store would significantly limit the range of stimulus variation that could be presented during instruction. A simulation which did sample the range of stimulus variation would provide an efficient vehicle for meeting this programming requirement.
4. *Increasing the effectiveness of the instructional sequence.* In order to ensure that students respond only to members of the stimulus class, the instructional sequence must be designed to allow juxtaposition of members and non-members of the stimulus class that are minimally different from one another. Again, the logistical constraints present in actual environments often prevent such systematic presentation of examples.

Classroom based simulation offers many potential advantages in training community-referenced skills. However, there has been an absence of clear guidelines for assisting teachers in deciding when simulation is an appropriate alternative to training in the actual environment.

When to Use Classroom Based Simulation

Current information suggests that whenever possible training should occur

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Using Simulation — Continued from Page 5

in the settings and under the stimulus conditions that the student will be expected to perform. There are, however, two conditions when in vivo training may not be the most effective or efficient instructional format. These include: (a) *when the range of relevant stimuli cannot realisticaly be presented within or across instructional sessions*, and (b) *when the range of relevant response variation cannot be sampled during instruction*. In these situations the teacher must consider the feasibility of combining simulation with training in a limited set of in vivo settings or using simulation in isolation.

Simulation plus in vivo training. This approach represents a realistic alternative when the range of in vivo settings required to teach generalized responding are not readily accessible. This strategy allows the teacher to supplement *in vivo* instruction with simulated training trials in order to increase the overall effectiveness and/or efficiency of training. Simulation plus in vivo training is a realistic alternative if the simulation component of training:

- Presents the range of relevant stimulus variation across which the student is expected to perform.
- Requires the learner to perform the same range of responses required in the actual environment.
- Increases the precision of the training sequencing.

Isolated simulation. Utilizing simulation in isolation is a practical alternative to training exclusively in *in vivo* settings when the teacher can reasonably predict that the simulation will be as effective as training in the natural setting. Effectiveness must be evaluated in terms of the likelihood that the learner will be able to perform across the range of stimulus conditions and settings without additional training. Four conditions are necessary to enhance the potential success of isolated simulations:

- Stimuli used during training must approximate the stimuli in the actual settings to the greatest extent possible.
- The range of relevant stimuli must be presented within and across instructional sessions.
- The learner must perform the same range of responses as those required in the actual environment.
- Irrelevant stimuli, unique to the classroom setting, must be varied across instructional sessions (Koegel & Rincover, 1977).

How to Build Effective Simulations

Designing effective simulations is not a phenomenologically different programming task than teaching generalized performance in actual settings. The steps required to develop effective simulations include:

1. *Define the instructional universe.* The purpose of defining the instructional universe is to clearly delineate the range of stimulus conditions and settings across which the student will be expected to perform.
2. *Define the range of relevant stimulus variation.* At this point the teacher is confronted with identifying those stimulus features which define members and non-menmbers of the class. This information will provide the base for selecting instructional examples.
3. *Select simulation training examples.* Obviously simulation training examples must be selected in order to sample the range of relevant stimulus and response variation present in actual environments, but attempts should be made to select examples which sample the range of irrelevant stimulus variation as well. These examples should be presented as "negative" instances in the instructional sequence. Further, in selecting training examples, the teacher should consider the limitations of the medium used during training (i.e., photographs, slides, videotape, teacher made materials, the actual stimulus, etc.) to ensure that it presents a realistic representation of setting conditions.
4. *Sequence training examples.* Instructional examples should be sequenced in order to juxtapose: (a) maximally different stimuli from the class, and (b) minimally different stimuli that are not members of the stimulus class. This will allow the simulation format to teach both the range of relevant stimuli and the boundary of the stimulus class. In addition, the sequence should allow regular opportunities to review previously learned discriminations.
5. *Teach and test.* Training during simulation does not differ from other instructional tasks. The teacher should use the full range of instruction techniques available to ensure effective and efficient acquisition (Snell, 1978; Wilcox & Bellamy, 1982; Bellamy, Horner, & Inman, 1979). One significant difference between simulation and other classroom based instruction is that assessment of student skill mastery should occur: (a) in the actual performance environment, and (b) across the range of relevant stimuli included in the instructional universe.

Conclusion

Simulation appears to hold promise for addressing the difficulties associated with training generalized skills in community settings. What is currently needed, however, are *empirically* validated guidelines to assist teachers of students with severe handicaps in deciding when simulation is an appropriate alternative to training in the acutal environment and procedures for designing effective simulation formats. Until such guidelines and procedures are available, simulation should be employed sparingly. The principle consideration in implementing simulation formats should be the probability that it will produce generalized responding in community settings *more* efficiently than training in the actual environments.

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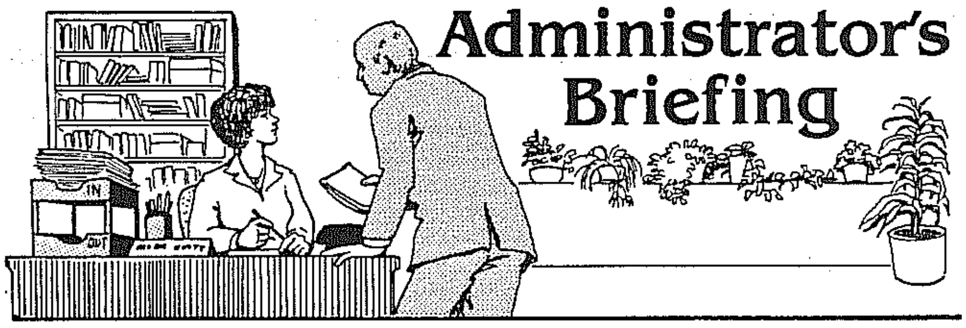


Quality Outcomes Require Quality Processes

Stan Paine, Principal
St. Alice School
Springfield, OR

We see many articles in newspapers and magazines these day about excellence in education, and we hear much discussion in both professional and lay circles about the topic. We even see specific proposals being put forth—and in many cases, adopted—to enhance the quality of education in our schools. Federal, state, and local officials are all suddenly promoting this cause, most typically by setting new mandates or imposing new requirements. Yet for all the good intentions of these many efforts, the entire school improvement movement will likely lead to little but a further distinction between students of various ability levels unless one critical point is acknowledged—that we will not have quality in our schools simply by asserting that it is present. We will only have quality in our schools when we work toward it day-by-day, moment-by-moment throughout the school year and across successive years. Similarly, achievement is not something which happens on the week of achievement testing—it is something which is accomplished (or not accomplished) every day of the year.

To improve its outcomes, education must implement what business and industry have done for years—control the quality of its products by actively engaging in effective quality assurance procedures on an on-going basis. This is a function which federal, state, or even district education officials cannot handle. They can mandate that it take place, but quality will not emerge in a school unless it is actively sought on a daily basis by building administrators. To be sure, teachers and parents also play critical roles in this process, but it is undeniably the responsibility of the building principal. The concept of supervision comes to mind here as relevant to the topic, but that concept has been so badly diluted in education by traditional supervisory practices (or lack thereof) that new concepts seem essential. Quality assurance is one which holds some promise.

Quality assurance in education might include several components: communication of expectations, provision of positive feedback for progress toward goals, provision of materials which give students the best opportunity to learn, allocation of sufficient time to priority areas, insistence of use of instructional strategies which maximize students' active participation in the learning process, organization of the learning environment to promote learning and to minimize non-learning time, frequent assessment of student progress, and responsiveness to such assessment data.

If the list presented above bears a resemblance to the characteristics of direct instruction, it is not by coincidence. Given the importance of the administrator's role in facilitating learning for all students in the building, we need to spell out a technology of "direct administration". Such a technology would draw from: (1) quality assurance procedures used in business, and (2) the philosophical commitment to student learning which underlies direct instruction. By supplementing direct instruction with "direct administration", we would no longer be forced merely to assert absently that quality was there somewhere in our educational programs. Instead, we could actively assure its presence. Over time, that presence would become apparent.

Effectiveness of Basic and Elaborated Corrections in Computer Assisted Instruction

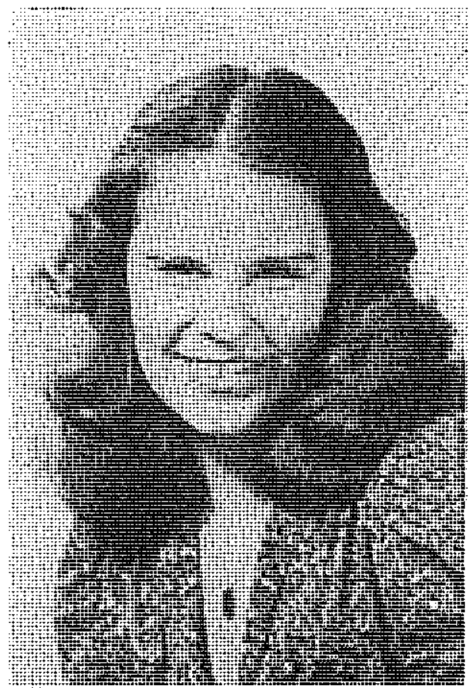
— Maria Collins, University of Oregon

Feedback has received considerable attention in education in recent years. Yet, Kulhavy (1977) reported that few studies have investigated the qualitative aspects of feedback given to students' incorrect responses. This research addresses this need by classifying feedback given to errors along a qualitative dimension:

1. *Simple Feedback.* The learners are told whether their responses are "right" or "wrong". Generally, the provision of including some feedback has proven superior to no feedback (Anderson, Kulhavy & Andre, 1971; Block & Tierney, 1974; Lasoff, 1981; Spence, 1966; Thorpe, Chiang & Darch, 1981; Yelvington & Brady, 1979).
2. *Basic correction.* The learners are told whether their responses are "right" or "wrong" and, if wrong, provided the correct answer. Basic correction procedures have generally improved student learning more successfully than merely telling students whether their responses are correct or incorrect (Brainerd, 1977; Delquadri, Greenwood, Stretton & Hall, 1983; Swanson, Hendersen & Williams, 1979; travers, Van Wagenen, Haywood & McCormick, 1964).
3. *Elaborated correction.* The learners are told whether their responses are "right" or "wrong", given the correct answer for a wrong response and are provided with additional information that explains why another response should have been given in lieu of their wrong response.

A comprehensive review by Lysakowski and Walberg (1982) suggests that merely telling students whether their answers are right or wrong may not significantly improve academic achievement. They suggest that students need to see a model of how to deduce a response in some type of overt manner to demonstrate their understanding of the information presented. By observing teachers modeling responses, students receive more detailed information about their incorrect responses. Elaborated corrections (modeling alone or modeling with simple feedback) then serves as a teaching tool in assisting students to perform correctly on the next item during instruction.

Recent research has tended to support



MARIA COLLINS

the value of elaborated corrections. Elaborated correction procedures have specifically produced superior results over no feedback and simple feedback conditions for relatively complex cognitive skills with college students in an introductory psychology course (Grant, McAvoy & Keenan, 1982) and with mentally retarded student in training discrimination tasks (Siegel & Crawford, 1983). Engelmann and Carnine (1982) have provided further theoretical support for the inclusion of more detailed correction procedures for teaching complex cognitive skills.

Virtually no research studies have been conducted to determine the effectiveness of elaborated correction procedures on the learning of complex tasks by remedial or special education students. The present study compared *elaborated* and *basic* correction procedures in the context of a CAI (computer-assisted instruction) program designed to teach formal logic to secondary low-performers (remedial and special education students). Formal logic was selected because reasoning skills instruction is strongly recommended (Lane, Fletcher & Fletcher, 1984) and has generally been lacking in the curricula of both "regular" and "special education" students in elementary and junior-high settings (Cherkes, 1979).

Method

Subjects

The students who qualified for participation in this study were selected from six remedial and special education classrooms in two schools in western Oregon. One-hundred and eighteen secondary students were screened, leading to a sample of 34 subjects who had the following characteristics: (1) placement in a special education or remedial reading class on the basis of standardized achievement test scores and/or teacher referral; (2) at least a 5th grade oral reading level, as determined by teacher judgment; (3) an understanding of the concept larger and smaller class, as evidenced by passing a classification pretest, and (4) a reading comprehension deficiency of no more than 3 years on district-administered standardized reading comprehension tests.

Table 1

Mean and Standard Deviation on Pretreatment Measures for Basic and Elaborated Correction Samples

Group	N	Classification Screening Test		Pretest		Woodcock Subtest	
		M	SD	M	SD	M	SD
Elaborated Corrections	14	23.67	1.15	10.57	4.33	35.79	6.60
Basic Corrections	14	23.85	1.28	11.50	4.18	35.79	8.70

(Group Variable: Classification Screening Test, Pretest, Woodcock Subtest)

Prior to the study, subjects were matched on scores from the analogies subtest (Word Comprehension) of the Woodcock Reading Mastery Test (Woodcock, 1978) and then randomly assigned to the Basic Correction or Elaborated Correction Group. The descriptive data for the subjects are included in Table 1.

Materials

The Reasoning Skills program (Engelmann & Carnine, 1983) was designed to teach low-performing students to draw conclusions from two statements of evidence and to determine whether a three-statement argument is logical or illogical. The program teaches these skills through the "syllogism" or basic argument form. The program does not use the terminology "syllogism" or "logical", but, rather, teaches students relevant rules through diagrams, a basic classification scheme, and rules for constructing and analyzing arguments.

The first two lessons focus on constructing arguments, a major prerequisite for determining whether an argument is logically sound or unsound. The example given in Table 2 is taken from lesson 3 and illustrates the type of skills that are taught in the program. Students in the Elaborated Correction Group received the correction information if they made a mistake.

The second part of the program (lessons 3, 4 & 5) expand the syllogistic logic principles to include arguments that contain a premise with the first words "No" or "Some". Each argument also includes another premise beginning with "All". Additionally, this part of the

Continued on Page 8

Table 2

Illustrations of Elaborated Corrections

All *athletes* are *humans.*
4 9

All *football players* are *athletes.*
8 4

Question: Enter the number of the smallest class.

Answer: 8

Correction: The smallest class is named once and is named at the beginning of an ALL statement. Football players is named once and is named at the beginning of a statement, so football players is the smallest class.

Question: Enter the number of the largest class.

Answer: 9

Correction: The largest class is named once and is named at the end of a statement of evidence. Humans is named once and is named at the end of a statement, so humans is the largest class.

Question: Now enter the two numbers of the conclusion. Enter them in the right order.

Answer: 89

Correction: For students who typed in 98: The conclusion names the smallest class first. Football players is the smallest class so football players must be first in the conclusion.
For students who typed in 48 or 49: Athletes is the middle-sized class. The middle-sized class is not named in the conclusion so athletes is not named in the conclusion.

Simulation

Continued from Page 6

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program focuses on the soundness of the arguments and then tests for the learner's ability to distinguish sound from unsound arguments.

The arguments (and answers) in Table 3 illustrate the types of valid and invalid argument forms that are taught in the reasoning skills program. The four choices preceding these arguments tell the learner which options are available for determining whether each argument is sound. The learner has three choices for unsound arguments (2, 3, or 4).

The CAI program was displayed on APPLE IIe and APPLE II Plus (with 64k memory) using two disc drives. The elaborated correction treatment used an unaltered copy of the Reasoning Skills program. The basic correction treatment used a modified version of the program in which all elaborated corrections were deleted.

Outcome Measures

The outcome measures included a test of formal logic (measuring acquisition of the CAI program's content), a transfer test (designed to assess any effects of generalization of subjects' skills to new material), and an attitude survey (measuring students' attitudes toward the computer and the reasoning program).

Two alternate forms of a Test of Formal Logic (Collins, 1984) were designed to measure the main outcome, i.e., students' performance on the formal logic skills taught in the program. Form A was used as a pretest measure and then readministered two weeks after treatment as a maintenance test. Form B was given to all subjects following the treatment as a posttest measure. The purpose of these tests was to measure subject's ability to analyze three-statement, syllogistic arguments. The criterion-referenced tests included two parts:

1. The 15 items in the first section tested skills for drawing conclusions from stated evidence. The following item is an example from form A:

   Here's evidence:

   All trains are vehicles.
   Some trains are steel objects.

   1. What will be the first word in the conclusion (all, some or no)? ____
   2. Write the conclusion on the line below:

   ____

2. The second section contained 8 items which reflected the terminal goal of the reasoning skills program, i.e., the subjects' ability to analyze a syllogism and determine if it was "sound" or "not sound", and if "not sound", to explain why. The items in this test were similar to those in Table 3.

The content validity of the two forms for the Test of Formal Logic was determined by four university instructors and 15 teachers in a critique writing college class. These persons were chosen as evaluators because they were considered potential "users" of the program and had at least an elementary background in reasoning. These evaluators examined the items and indicated those items which they felt were inappropriate and their reasons for exclusion. Based on their comments, these items were either dropped or revised.

The internal consistency for the instrument was based on an N of 28. Data were analyzed using coefficient alpha. Weak items were eliminated prior to determining the total test reliability. The internal consistancy for total test was .90 for Form A and .91 for Form B, providing a high degree of consistency between the items in each measure. The alternate form reliability for the two tests was .84, indicating a strong relationship between the two instruments.

The researcher developed a transfer test containing 15 items to evaluate the subjects' ability to generalize the instruction to other similar tasks, but in prose paragraph form, closely approximating standard testbook material. Three high school teachers responded to questions about the appropriateness of the test for measuring the content of subject-matter material. These teachers were selected by a district testing coordinator, who regarded the teachers as the most critical evaluators of educational textbooks. These teachers did not examine the syllogistic format, but the individual items. Items were changed according to the specific recommendations of the teachers. This instrument was given to subjects on the day following the completion of training on the CAI program.

Both invalid and valid arguments were included, with a heavier emphasis on invalid arguments (5 valid and 10 invalid arguments). The argument forms paralleled those arguments taught in the reasoning skills program involving *All*, *Some*, and *No* conclusions.

Table 3

Illustration of Exercise for Analyzing Arguments

Read each argument. Then enter the number that tells about the argument.

1. The argument is sound.
2. The conclusion does not name the smallest class.
3. The conclusion does not name the largest class.
4. The conclusion does not begin with the right word.

Argument 1:	All erasers are things made of rubber. Some things made of rubber are expensive. So, some erasers are expensive.
Answer:	3
Correction:	The conclusion has the word some, so the conclusion must name the largest class. Look at the All statement to find the largest class. See if that class is named in the conclusion.
Argument 2:	All jeans are pants. All pants are clothing. So, all jeans are clothing.
Answer:	1
Correction:	The conclusion has the work ALL, so the conclusion must name the smallest and the largest class. Check both "all" statements. See if the smallest and the largest classes are named in the conclusion.

Table 4

Means and Standard Deviations on the Tests of Formal Logic

	Tests		
	Pre	Post	Maintenance
Elaborated Corrections (EC)			
Mean Correct	6.0	18.0	18.7
Standard Deviation	3.67	4.69	3.97
Basic Corrections (BC)			
Mean Correct	7.0	15.2	13.2
Standard Deviation	3.35	6.14	6.81

Table 5

Summary of Performance on Transfer Test

	Transfer Test					
Training Method	M	Range	SD	t	df	p
Elaborated Corrections	12.07	8-16	2.97	1.70	26	.05
Basic Corrections	10.29	5-13	2.56			

Results

Table 4 presents the descriptive statistics for the pretest, posttest, and maintenance Tests of Formal Logic for both samples. The Elaborated Correction (EC) Group had a slightly lower mean pretest score (6.0) than the Basic Corection (BC) Group (7.0) on pretest scores. This difference was not significant. Both groups had similar standard deviations on the pretest: 3.67 (EC) and 3.35 (BC).

When the two samples are compared on the posttest, the mean for the EC group was 18.0 and for the BC group 15.2. A similar pattern emerged on maintenance tests. The differences in standard deviations widened (EC = 3.97 and BC = 6.81).

A 2 × 3 analysis of variance (ANOVA) was performed on the number of correct responses on each of three tests of formal logic (pretest, posttest and maintenance tests). The between group factor was training method (A), the within group factor was time of testing (B). A significant ($p = .007$) interaction was attributable to the EC Group out performing the BC Group at posttest and maintenance testing.

Table 5 reports t-test results for the groups' performances on the transfer measure. These results indicated a significnt difference between the two training groups ($t = 1.70$). The percentage of correct responses on the transfer test was low for both groups: EC = 53% and BC = 43%.

Time Per Lesson

Data were collected on the time students took to complete each of the five lessons to determine whether any differences existed between the two groups. A 2 × 5 analysis of variance (ANOVA) with repeated measures was performed on the time-per-lesson data. The between group factor was training method (A), the within group factor was time per lesson for five lessons (B). The analysis did not show any significant differences between the time the EC and the BC Groups took to complete lessons.

(See Tables 6 and 7)

Table 6

Means and Standard Deviations for Groups on Time Taken to Complete each Lesson

	Groups			
Lesson	EC		BC	
	Mean	SD	Mean	SD
1	19.93	3.38	17.79	5.40
2	22.21	4.66	23.14	4.42
3	25.64	4.99	25.71	5.22
4	29.07	5.25	26.64	3.59
5	27.42	4.60	26.36	4.09
Average Time	24.86		23.93	

Student Attitudes Toward Instruction

A survey was administered to all students to determine whether any difference existed between the EC and BC Groups on attitudes toward instruction.

Table 7

Summary of Analysis of Variance with Repeated Measures for Time Taken to Complete Lessons

Source	Analysis of Variance SS	df	Mean Square	F	p
Treatment (A)	30.18	1	20.18	.50	NS
Error (S/A)	1562.40	26	60.09		
Time (B)	1497.64	4	374.41	32.45	NS
Treatment × Time (A × B)	57.36	4	14.34	1.24	NS
Error (S/A × B)	1199.80	104	11.54		

Table 8

Student Attitudes Toward the Program

Questions	Group EC M	EC SD	BC M	BC SD	t	p
1. Was this program interesting to you? (1-yes 0-no)	.79	.43	.86	.36		N.S.
2. How well did you enjoy the program? (2-I enjoyed it 1-I feel OK about the program 0-I did not enjoy the program)	1.57	.51	1.36	.63		N.S.
3. Do you feel you understood the rules and examples in the program? (2-all the time 1-sometimes 0-never)	1.29	.47	1.20	.58		N.S.
4. Do you feel like you can now pick out a sound argument? (2-all the time 1-sometimes 0-never)	1.43	.51	1.07	.27	5.14	.001

The results are reported in Table 8. One of the four items showed a significant difference between the groups. This item asked the students how well they felt they could detect faulty arguments. The EC group felt they could do it better. Both groups thought the programs were interesting and enjoyable.

Student Mastery of Material

Table 9 presents the percentage of subjects at an acceptable mastery level (75%) on post and maintenance tests. These results show that although the percentage of subjects in the two groups at an acceptable level were just slightly different at posttest, the differences increased dramatically at maintenance tests. Half the EC Group scored 75% or better on maintenance testing while less than one-fourth the subjects in the BC Group achieved the 75% level.

Table 9

Percentage of Students at an Acceptable Mastery Level (75%) for Both Groups on Post and Maintenance Tests

Test	Elaborated	Basic
Post	42.8	35.7
Maintenance	50.0	21.4

Discussion

The present study lends further support to the research conclusions of Grant, et. al. (1982) and Siegel and Crawford (1983), which indicated that the type of correction procedure needs to be directly related to the type of teaching task. The elaborated correction procedures incorporated in the reasoning skills program were all specifically related to relatively complex tasks in the program. The effects of elaborated corrections were most evident on the maintenance test performance.

The results of this study are especially encouraging because the EC treatment did not require significantly more time than the BC treatment. Arlin and Webster (1983) and Miller and Ellsworth (1977) have criticized mastery learning practices because of the time teachers must spend with individual students to correct errors. Arlin and Webster (1983) found that the additional time teachers took to correct errors dramatically increased the time they spent with remedial students and significantly reduced the time the teachers spent with the average and high-performing students. The present study suggests that teachers need not sacrifice instructional time with any group of students, but could increase students' skills during the same amount of time with these elaborated correction procedures.

The amount of gain from pretest to posttest for both treatment groups also provides substantial evidence for the positive impact of the instructional design of the Reasoning Skills Program and the use of computers as instructional devices. Although the effects were more dramatic for the Elaborated Correction Group, both groups increased their level of correct responding on the Test of Formal Logic. Similarly-designed computer programs could potentially free teachers from individualizing instruction and allow them more academically-engaged time with groups of students, an important consideration for teacher effectiveness (Brophy, 1979; Emmer, Evert & Anderson, 1980 and Stallings, 1977). Students may also benefit from such computer programs which can tailor correction procedures to specific errors and better insure maximum learning on complex cognitive skills such as reasoning.

The fact that the EC Group demonstrated a mean score of 70% at the posttest implies that the students needed more instructional time to effectively "master" the program. The results suggest that low-performing students need more instruction to achieve mastery than the current version of the program provides.

Studies with special education students consistently fail to find generalization from one setting to another unless specific training procedures are employed to produce generalization (Peed & Pinkser, 1978; Walker & Buckley, 1972; and Wehman, Abramson & Norman, 1977). The significant difference found between the two groups on transfer, then, is surprising. These results suggest that Elaborated Correction procedures provide a stronger assurance that some transfer will occur.

Further research could focus on procedures for increasing tranfer performance. While the EC Group scored significantly higher on the tranfer tasks, the general performance was low (EC = 53%; BC = 43%). Since the pretest did not include any measures similar to the transfer test items, the performance level of 50% could represent a substantial improvement from pretest level.

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by
Peggy Peterson

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Camden, New Jersey Direct Instruction Project

By George Brent
Nicholas DiObilda

Glassboro State College

Camden, New Jersey is located on the Delaware River opposite Philadelphia. With a population of about 100,000, including large numbers of Black and Hispanic minorities, it is the largest city in southern New Jersey. It shares the urban problems typically found in older eastern cities. These include widespread unemployment, inadequate housing, and a declining tax base. The city has 20 elementary schools, 5 middle schools and 2 high schools. The schools vary widely in student background and achievement. Student achievement has been below average when measured by national standardized tests and statewide minimum basic skills tests.

The school system, however, is vigorous in its attempt to solve its problems and raise the academic achievement of its students. The school board, administration, faculty, parents and college consultants have worked together to try a variety of approaches either suggested by the literature on urban education or generated by one of the groups as a unique response to pressing problems.

Since 1972 the Camden City Public Schools have been piloting innovative teaching practices that are based on behavioral research. First, behavior modification principles (Becker, Engelmann, & Thomas, 1975) were used to improve social behavior. By 1975, Precision Teaching (Brent 1977) was added in an attempt to focus on academic behavior. Then in 1978, the study and use of the curriculum and principles of the Oregon Direct Instruction Model began.

Direct Instruction was introduced to Camden as an innovative and validated curriculum approach to improve elementary education. At first Direct Instruction was a pilot project limited to the use of *Distar Language I* in one kindergarten class. Gradually, the number of classes involved in Direct Instruction increased. Today, many classes use one or more of the following programs: *Reading Mastery, Distar Language, Mathematics Modules, Corrective Mathematics, Corrective Reading,* and *Expressive Writing*. In addition the procedures from the texts *Direct Instruction Mathematics* and *Direct Instruction Reading* are used as guidelines for instruction. These programs and procedures coexist with traditional programs of instruction which still dominate the curriculum.

The implementation of the Direct Instruction programs has been regarded as experimental. There has been no systemwide adoption. In reading instruction, it is typical to find Direct Instruction in some classes at a particular grade level while other classes are still receiving instruction in a traditional basal reader series. For example in one school, one out of four second grade classes used Direct Instruction. Teachers who volunteer to use Direct Instruction are prepared in brief training sessions prior to implementation. They also receive help in their classroom several times yearly.

The experimental programs were evaluated in different ways. The objective was to improve student learning by using instructional programs that were more effective and efficient than the ones in use. Camden judged Direct Instruction as a successful innovation based on subjective evidence. Teachers using Direct Instruction "looked" like they were teaching and students "looked" like they were learning. The teachers who used Direct Instruction programs liked them. More objective measures such as student standardized test scores indicated the programs appeared to raise the level of student achievement. However, the evaluation of programs lacked the controls that would lead to a firm conclusion that the programs were responsible for student achievement gains and not something else.

In the 1982-83 school year, attention turned toward designing and conducting a true experiment to assess the effects of Direct Instruction. The first study assessed the effects of *Distar Language I*.

Kindergarten Experiment

One volunteer kindergarten teacher from each of three schools was chosen to participate. Each teacher had two classes; one was taught in the morning, the other was taught in the afternoon. *Distar Language I* was randomly assigned to either the morning or afternoon class in each school. The teachers received training in the implementation of *Distar* and were monitored four to six times to determine if they were following the program. The traditional program of instruction was used with the control groups. The final analysis of data included only two schools because individualized testing of the students was required and the testers did not have sufficient time to test all pupils.

At the beginning of the school year students were administered a reading readiness checklist devised by the school district. The tasks include "reading readiness skills" like speaking in sentences, identifying objects in pictures, retelling stories, and noting likenesses. The scores were analyzed using a two-way analysis of variance (school by treatment) and there were no significant differences on pretest.

During the first two weeks of June, 1983, the experimenters individually administered the Test of Language Development (TOLD)-Primary Form (Newcomer and Hammill, 1982) to a random sample of 16 students from each class. The TOLD is a test of general language ability whose items are not directly linked to *Distar Language I*. Students were also given the Cognitive Abilities Test, Form 3 (Thorndike and Hager, 1980). Standard scores were selected as the unit of analysis. A 2 × 2 analysis of variance (school by treatment) was used for each composite subtest score of the TOLD and the Cognitive Abilities Test. All data met the assumptions underlying the analysis of variance.

There were no significant differences on the Cognitive Abilities Test. The TOLD-Primary provided five composite subscores—Spoken Language, Listening, Speaking, Semantics, and Syntax. There was one significant difference attributable to the treatment. The control group was significantly higher than the *Distar* group on the Spoken Language Composite Score ($F = 4.09$, $df = 1.60$). There were no significant interactions.

Various reasons may explain the nonsignificant differences. The Camden adaptation of *Distar Language I* did not replicate the best Direct Instruction models. Camden used fewer aides, and provided limited training to the teachers. Monitoring of the classroom implementation revealed that the teachers did not adhere to the lesson-a-day standard and were treating the program as a basal reader series readiness program is treated. The use of the same teacher to teach both *Distar* and the control groups possibly led to a contamination of treatments.

An additional experiment was carried out which tried to correct the shortcomings of the kindergarten study.

Grade 2 Experiment

Students at this grade level had received prior reading instruction with a traditional basal reader approach. From a pool of teacher volunteers, two teachers were randomly selected from each of two elementary schools. One teacher in each school was randomly assigned to teach *Reading Mastery (Distar)* to her class. The other teacher was assigned to teach the traditional basal reader approach. Twenty-five pupils were randomly assigned to each class. School policy does not permit formal testing of students before the end of Grade 2. The only data available about pretreatment ability consisted of an interval measure on a reading skills inventory. Approximately half the students were administered the skills inventory. The inventory includes questions on sight vocabulary, consonant blends, vowels and other phonic elements. There were no significant differences between groups at pretest on these measures.

Teachers who were chosen for *Reading Mastery* received training in the implementation of the program and were monitored in its application. Training was provided with the assistance of the Dayton (Ohio) Direct Instruction Follow Through Resource Center. The control groups were also monitored to assure compliance in their use of the basal reader materials. At the end of Grade 2 all students were tested with the Comprehensive Test of Basic Skills, Form S, Level C. The test provided four scores— Vocabulary, Sentence Comprehension, Passage Comprehension, and Total Reading.

Scale scores were chosen as the unit of analysis. A 2 × 2 analysis of variance (treatment by school) was used to analyze each of the four measures. Results are presented in Table 1. The F value needed for significance at the .05 level is 3.95.

Table 1 reveals that the only significant difference between the *Reading Mastery* and the basal reader groups was on the Vocabulary subtest scores. The mean of the *Reading Mastery* treatment was 334.29, significantly higher than the basal reader mean of 315.66. The difference on Total Reading was very close to statistical significance. Effect sizes (mean difference divided by the norm group standard deviation) ranged between .27 and .33 standard deviations. Normally, a difference of .25 to .33 is considered educationally significant.

Table 1 also shows that on each measurement the *Reading Mastery* group scored at the national average or above. The basal reader group scored below the national average. These results provide evidence that the use of *Reading Mastery* may help students who are not normally expected to achieve at the national average to do so. Furthermore, the program was clearly superior in developing vocabulary skills.

The effects of both programs were probably limited by several factors. The teachers using the two programs were new to Direct Instruction. They had to attempt to acquire teaching proficiency during the year as the program was implemented. Second, the Direct Instruction programs were not used until several weeks after school began. Third, the language data were obtained from tests that probably did not accurately measure the relevant skills, but were the "best" that the experimenters could use. Fourth, the experimenters were limited to the CTBS test to measure the reading program. The CTBS is a general measure of reading achievement and is not directly related to either program of instruction.

The achievements of the Direct Instruction Follow Through program

Continued on Page 14

Table 1

Means and Standard Deviations by Group on CTBS Reading

	Reading Mastery (N = 47)	Basal Reader (N = 47)	F	CTBS National Norm	Effect Size
Vocabulary					
Mean	334.29	315.66	4.03*	330	.32
SD	50.95	37.32		58.0	
Sentence Comprehension					
Mean	291.03	282.48	2.21	288	.27
SD	31.03	24.48		31.2	
Passage Comprehension					
Mean	284.42	274.24	3.00	284	.33
SD	27.66	28.36		30.3	
Total CTBS					
Mean	332.51	314.20	3.86	326	.31
SD	50.17	38.33		59.2	

* Significant at the .05 Level

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A Good Marriage

Social Skills Training, DI, and Videodisk Technology

By R.J. Thorkildsen
Utah State University

A study was conducted from January through May of 1984 to investigate the effectiveness of the Interactive Videodisc Social Skills (IVSS) program for children who have been identified as mildly handicapped and who have been placed in a resource room for part of their daily instruction. The IVSS program was developed as part of a two year grant funded by the U.S. Office of Education, Special Education Programs.

The investigation determined whether social skills training can increase the number of positive social interactions of handicapped children toward their non-handicapped peers, reduce the incidence of negative social behaviors, improve their self-concept, and increase acceptance by their non-handicapped peers.

Public Law 94-142 mandates that handicapped children be given a free public education in the least restrictive environment. Most state and local education agencies have defined "least restrictive" to be the regular classroom environment. This interpretation has substantially increased the number of handicapped children in regular classrooms. It has been assumed that the placement of handicapped children in the presence of their nonhandicapped peers will result in increased mutual social interaction and acceptance between the two groups. There is increasing evidence, however, that handicapped children are not being accepted by their nonhandicapped peers. There is also evidence that this lack of acceptance may be partly due to handicapped children's lack of social skills, and that training these children in social skills can increase peer acceptance.

Methods

The IVSS program teaches children how to use appropriate phrasing, intonation, and body language in such social interactions as getting involved and being positive. The videodisc is used to present: (1) examples of appropriate and inappropriate social activities. A daily lesson guide for the teacher accompanies each videodisc presentation. The program also includes a behavior management system that is used during and after the videodisc and role-playing phase.

The IVSS program was designed using the principles of Direct Instruction. Doug Carnine, Hill Walker and Dan Morgan were very influential in the design of the program.

Direct Instruction

The social skills training in the IVSS program emphasized systematic instruction using the design principles of Direct Instruction. Teaching social skills requires the presentation of examples of social behaviors. In the discrimination training portion of the program, examples and non-examples of appropriate cooperative interaction are presented. These examples are sequenced according to the juxtaposition principles of Direct Instruction. For instance, when presenting examples depicting appropriate and inappropriate intonation, only intonation is changed between juxtaposed examples. All other aspects of the examples are held as constant as possible.

Direct Instruction principles were also used to determine how and when to: (1) review and consolidate skills, (2) elicit overt responses from the student, and (3) provide consistent corrective feedback.

In general, Direct Instruction is aimed at greatly reducing the number of extraneous variables in the teaching process maintaining consistency in student/teacher interactions. By using the videodisc, verbal and nonverbal presentations do not vary between students and occasions as it might if a teacher were making the presentation. Voice level, intonation, eye contact, body position, and other nonverbal nuances were controlled.

With the exception of the first day, each of the first eight days begins with a review. As each new skill is learned, it is consolidated with previously learned skills resulting in chains of acquired social behaviors that contribute to cooperative social interactions.

Overt responses by the students are required when working in small groups and discussing the videodisc scenes. All students in the group are actively involved in the imitating, rehearsing, and role-playing activities.

The use of corrective feedback is incorporated in the daily lesson manual and the behavior management system. Verbal praise and admonishment are provided throughout the discrimination training. The teacher also provides feedback in the form of rewards for meeting certain contingencies when using the behavior management system.

Videodisc Technology

A major problem in developing social skills training programs is how to present realistic examples and models. A verbal description of a complex social behavior is difficult to write and usually not very compelling.

Recently developed videodisc players possess all the capabilities of videotape players plus they have the ability to accurately select and present any material contained on the videodisc and present still frames of excellent quality.

The hardware components of the IVSS program consists of a Pioneer 7820-III videodisc player, a color monitor, and a dot matrix printer. The microcomputer built into the videodisc player is used to control the logic of the system through computer programs stored on the videodisc along with the video instructional materials. All of the hardware interfaces and software required to deliver the social skills instruction were developed through projects directed by the author.

Fieldtesting

The IVSS videodisc instructional materials were field tested first using videotape. A videotape containing the revised instructional materials was then sent to Pioneer Inc. to be converted to a videodisc. This conversion resulted in three videodisc sides.

Subjects

Six elementary-school resource rooms, each containing five mildly handicapped students, were randomly assigned to participate in the program (experimental group) or to continue their regular resource room program (control group). The students were classified as neglected, accepted, or rejected. Data on the student's social behavior, acceptance by nonhandicapped peers, self-esteem, and treatment implementation were collected over a four-month period.

Research Design

The effects of the social skills training program were tested using a pretest-posttest, control group design with random assignment of classrooms to treatment groups.

This design controls for all internal and external threats to validity except for pretest-treatment interaction. This validity threat was not considered a problem for several reasons: observational data on the control group was collected by the same procedures as the experimental group; none of the students knew why they were being observed; and the students were not aware of the reasons for the sociometric or self-esteem assessment.

Results

It was difficult to determine if the treatment affected each student in the experimental group independently of other students in the experimental group. Part of the treatment was received by students in small groups and part was received individually. Thus, it was difficult to determine the appropriate unit of analysis. The data were analyzed using both students and classrooms as the unit of analysis. When statistical significance was found using student as the the unit of analysis, the analysis using classroom as the unit of analysis was also reported.

Table 1 lists the unadjusted pre- and posttest mean scores, and the results of several analysis of covariances used to answer the major questions of the study.

Using students as the unit of analysis the experimental group scored significantly higher on post-training peer acceptance than did control group. Also, within the experimental group the *neglected* and *accepted* students scored higher than did *rejected* students. The groups' students did not differ on the post-measure of *self-esteem*.

The experimental group was rated significantly higher than control group on a post-checklist of social skills covered in the program. This checklist was completed by each student's resource room teacher. No treatment effect was found for a post-checklist of social behaviors not covered in this program; the latter checklist was completed by students' regular and resource room teachers.

The social behavior of the students in natural school settings was directly observed for sixteen weeks. Treatment group students made a greater improvement than did control group students, but the difference was not statistically significant.

Educational Importance

It was concluded that the experimental group students learned the social skills taught by the program, their positive behaviors were increased, and peer acceptance by their regular classroom peers was significantly improved. The peer acceptance finding is of major importance. Very few studies involving maintreamed handicapped children have reported significant improvements in peer acceptance.

It was difficult to determine the incremental value of the videodisc to the total training program. It was concluded that the videodisc enhanced the quality of the program, but that videotape could be used in place of the videodisc. Because there are few videodisc players in the schools, both videotape and videodisc versions of the IVSS program will be made available.

Table 1
Unadjusted and Covariance adjusted Mean Scores Using Student as Unit of Analysis

Measures	Unadjusted Treatment Groups	Pretest Means	Posttest Means	Adjusted Posttest Means	F Value	Prob. Level
Peer Acceptance Ratings	Experimental	2.51	2.64	2.68	10.27	.004
	Control	2.60	2.33	2.30		
Social Skills Checklist	Experimental	2.46	3.30	3.43	15.81	.001
	Control	2.85	2.98	2.85		
Behavioral Observations	Experimental	31.28	72.33	72.32	2.03	.166
	Control	43.14	56.94	55.98		

Computer-Assisted Instruction
- A Review -

P. Rapaport and W.G. Savard
Research on School Effectiveness Project
Audit and Evaluation Program
Northwest Regional Educational Laboratory
Portland, Oregon

Overview

Educators have recently begun to examine computer-assisted instruction (CAI) more closely, due to the recent slashing of computer costs caused by the technological advances which produced the mini- and micro-computer. Microcomputers with enough power to provide CAI practice, problem solving and simulation are now quite inexpensive, some costing less than $1,000. Over a four-year period, such a system could cost less than $1 per student hour, including courseware, thus making CAI increasingly attractive from the financial point of view. There are also new levels of convenience. When CAI was first tried on a large scale, it was necessary to bring the students to the computer terminals. The present state of the art brings the computer to the student and requires no communication costs, no special operating personnel and little or no modification of facilities. The basic remaining question then is, how well does it work in promoting student learning?

Major Findings

Achievement. Studies on CAI show remarkable consistency in their findings. Almost every study finds that traditional instruction, supplemented by CAI, leads to higher achievement than traditional instruction alone. All the elementary studies, and virtually all the secondary studies report achievement gains by the students receiving CAI.

Studies of CAI as a replacement for traditional instruction are not as conclusive. Most of the studies reviewed by Edwards and her colleagues (1975) do not find CAI alone superior to traditional instruction alone. However, nearly half of those studies do find higher achievement in the CAI group.

A very few of the studies reported differences in the effectiveness of CAI based upon characteristics of the students. Three studies report that CAI is more effective for low ability students than for high ability students. Two other studies report that boys benefit from CAI more than girls do, but one study fails to find any differences. However, both of these findings may be caused by a ceiling effect; in both cases, the groups which improved the most had the most room to improve.

Attitude. Most stidues find that CAI students have a better attitude toward the subject matter than students who received traditional instruction alone. Many studies do not find a difference in attitude, and Thomas's review found one study with more negative attitudes in the CAI study. This was in the same community college study which found less achievement in one of the CAI groups. The usual finding is that students have a very positive and enthusiastic response to the CAI course.

Other Findings. All of the studies which reported the amount of time taken by students to learn the material found that, compared with traditionally instructed students, CAI students complete the same material in less time or more material in the same time. There is no consistent evidence that there is any difference in the retention rates of CAI and traditionally instructed students. Thomas (1979) reviewed three studies which show that students can be assigned to share terminals and still achieve as much as students assigned to individual terminals.

Conclusions

The research findings make it clear that CAI is an effective supplement to traditional instruction. The evidence is not strong enough to support teaching by CAI exclusively; a combination approach seems to work best. Computer-assisted instruction is also popular with students and often improves their attitude toward the subject matter. The CAI approach usually results in the students learning more material in a given time period, or the same amount of material in less time. Fears that students would forget CAI learned material more easily than traditionally learned materials appear to be unfounded although findings in this area are mixed or inconclusive.

Recommendations

It is recommended that the use of computer-assisted instruction be actively promoted and expanded. This would be especially important for small schools in rural areas where it is difficult to offer full schedules of classes to limited numbers of students. It is also recommended that the use of computer-assisted instruction be increased with low-achieving students and with students who tend to be alientated by traditional teaching methods.

It is recognized that the development of CAI programs may be beyond the capabilities of some small districts. It is therefore recommended that states take leadership roles in such development efforts, providing both financial support and technical expertise.

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Camden –
Continued from Page 11

(Becker, 1977) reflect a teaching situation in which students were exposed to several levels of three *Distar* programs. The students were taught *Distar Reading, Distar Language*, and *Distar Arithmetic* in their classrooms for 3 or 4 consecutive years. Data were obtained at the end of grade 3. It is likely that as Camden more closely replicates the Follow Through model, Camden's data will more closely resemble the Follow Through results.

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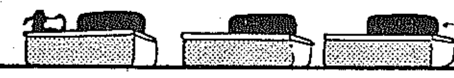
Teacher to Teacher



Goal Setting

By Randy Sprick
Educational Consultant
(and President of ADI)
Cottage Grove, Oregon

Editor's Note. This article is taken from Chapter 4 of Discipline and Motivation in the Secondary Schools *by Randy Sprick. This book is being published by C.A.R.E./Prentice-Hall, and will be released sometime this winter.*

Sometimes solving a behavior problem can be accomplished without setting up a formalized behavior modification program. Goal setting is often a very effective way to get students motivated to want to change their own behavior. The teacher can help the student identify goals that will help him/her be more successful in school. The teacher and student can work together to define behaviors that will interfere with reaching the goal, and can set up student responsibilities that will help the student obtain his objective.

Martin has potential, but the system has failed to reach him. Martin needs to learn that he is capable of taking responsibility for himself. Goal setting will give Martin an opportunity to help himself learn how to be more successful.

Goal setting is frequently a useful tool because it sets formal expectations for the student. It provides a vehicle for discussing relevant issues, and it lets the student know that someone at school cares enough to help the student meet his or her potential.

STEP 1: USE A GOAL SETTING FORM TO FACILITATE THE GOAL SETTING PROCESS.

The form in figure 1 may be useful as it provides a place where a problem can be identified. If the form is not applicable, feel free to design your own form.

STEP 2: WORK THROUGH THE FORM IN ADVANCE OF MEETING WITH THE STUDENT.

This step is to help you get a handle on the problem prior to meeting with the student. You will eventually work through a blank form with the student and encourage his participation in the goal setting. However, working through the system yourself prior to meeting with the student will help you give the process direction.

First, if applicable, identify the problem that is interfering with student success. If the student will need to abandon unacceptable behaviors, clearly specify the borderlines between acceptable and unacceptable behaviors.

Next, identify a positive goal. A positive goal requires a student to "do" something. When students have problems it is very natural to think of goals that will help the teacher rather than the student. "Don't bother others," requires nothing of the student and only helps the teacher.

Examples of reasonable goals are listed below.

My goal is to:
Turn homework and class assignments in on time.
Raise my grade from a "D" to a "C".
Learn to get along with others.

With some students you may need to help identify long-range goals, and then follow the long-range planning with short-term planning.

Long-range goal:
Get a good paying job.

Short-term goals:
Complete high school.
Go to college.
Get a part time job.
Earn a scholarship.

Once the goal has been established, identify what the student can do to achieve the goal. These are student responsibilities. Student responsibilities or expectations place a demand on the student. If the student has severe problems, expectations need to be within the immediate range of the student's capabilities.

Next, determine what you can do to help the student achieve his goals. This is very important because it demonstrates to the student that you are concerned enough to put forth effort. Some of the things the teacher might do include:

- Reducing the amount of nagging.
- Telling the student more frequently when work is done well.
- Being more objective in evaluating work.
- Observing the student more frequently in class.
- Contacting the student's parents when behavior improves.
- Helping the student keep records of current grades.
- Helping the student learn how to respond to different situations by role playing.

STEP 3: IDENTIFY WAYS TO EVALUATE PROGRESS.

It will be important in most cases to have a measureable way to determine whether the student is making progress.

Self-counting is a procedure that teaches the student that he can learn to take responsibility for his own behavior. In some instances, this works best by taking baseline data, and comparing behavior over time. In other cases, it may be advantageous to have the student count mutually incompatible behavior. For example, if the student

Continued on Page 15

Goal Setting – Continued from Page 14

Figure 1

GOAL SETTING FORM

STUDENT:

CLASS:

DESCRIPTION OF THE PROBLEM:

GOAL:

STUDENT RESPONSIBILITIES FOR ACHIEVING THE GOAL:

TEACHER SUPPORT RESPONSIBILITIES:

EVALUATION PROCEDURE:

DATE OF GOAL EVALUATION:

STUDENT'S SIGNATURE ____________________

TEACHER'S SIGNATURE ____________________

were working on becoming more positive about himself, you might have him counting positive and negative comments about himself. Self-counting procedures can also be used to create opportunities for the student to work on appropriate behaviors. Every time the student does something that is negative, you might require that he practice doing something positive.

Evaluation may also simply involve determining whether a series of student responsibilities have been completed. For example, if the student's goal is to eventually work in an office, her/his responsibilities might include interviewing the school secretary and one other office worker to determine what kinds of qualifications s/he will need to meet her long range goal.

Finally, evaluation may be as simple and informal as the student and teacher meeting every week to discuss how things have gone.

STEP 4: MEET PRIVATELY WITH THE STUDENT AT A NEUTRAL TIME. Explain your objectives.

Examples:

I know that school has been difficult for you and I would like to help you set some goals that might make it easier.

I'm concerned about your grade in this calss. In checking through your current grades, I see that you have a "D". I really think that's a shame because your grades would average a high "C" if you had turned your papers in on time.

I thought we might get together to talk about some of your future options. Your papers are of very good quality, demonstrating that you have a good mind. Have you thought about what you would like to do when you complete high school?

STEP 5: IF YOU ARE WORKING ON IDENTIFYING SHORT RANGE GOALS HAVE THE STUDENT IMAGINE WHAT SCHOOL OR YOUR CLASSROOM WOULD BE LIKE IF S/HE WAS REALLY SUCCESSFUL IN SCHOOL. IF YOU ARE WORKING ON LONG RANGE GOALS, HAVE THE STUDENT IMAGINE ENJOYING HIM/HERSELF ON A NORMAL AUTUMN DAY FOLLOWING GRADUATION.

Some students have never given any thought to where they are headed. Try to get the student to imagine what she would like life to be like when she is out of school. Help the student identify goals from the situation she describes and fill in the form. The goals you have in mind may help guide the discussion, but work as much as possible from the student's ideas.

STEP 6: HELP THE STUDENT IDENTIFY STUDENT RESPONSIBILITIES AND TEACHER RESPONSIBILITIES THAT WILL HELP HIM REACH HIS GOAL.

You may be able to help the student identify what she needs to do by asking her exactly what she saw herself doing when she imagined being successful in school. Student responsibilities must be things that the student can actively do to reach his goal. Share some of the ideas that you had. Jointly fill in the form. Next work on things that you can do to help out.

STEP 7: SET A DATE TO EVALUATE WHETHER THE STUDENT IS MEETING HIS GOAL.

Initially, the goal should be evaluated within a relatively short period of time. With all students, this should be no longer than one week. If you are working on a behavior problem, the short term of evaluation forces the teacher and student to be aware of their patterns of interactions.

If you are helping students with long range planning, the short evaluation period will help the student rcognize that his daily efforts will impact a longer range goal.

STEP 8: SIGN THE GOAL SETTING FORM.

Signing the goal setting form is simply a formality that highlights the importance of your plan. If the student does not choose to make an effort in reaching his goal, you should probably explore a more structured individual motivational plan.

STEP 9: FOLLOW THROUGH ON YOUR RESPONSIBILITIES.
Make an obvious attempt to carry out responsibilities. Frequently, students will wait to see whether the teacher is making an effort to meet her responsibilities before the student will make an effort to meet his responsibilities.

RECOGNIZE STUDENT EFFORTS. Provide her/him with feedback. Feedback needs to be very adultlike and discrete. A nod, quietly making an appropriate comment to the student at his desk, a note on an assignment, and greeting the student at the door are examples of ways you can provide appropriate positive feedback to students without potentially embarrassing them.

STEP 10: IF THE STUDENT ENGAGES IN UNACCEPTABLE BEHAVIOR, FOLLOW THROUGH WITH ANY CONSEQUENCES THAT HAVE BEEN SET UP.

Avoid acting disappointed or disgusted. View the student's misbehavior as a momentary setback. Imply that you still expect the student to be able to meet positive expectations.

STEP 11: EVALUATE STUDENT PROGRESS.

On the date of evaluation, the student and teacher should discuss whether the student is meeting his goal. They should discuss what is working and what is not working. If the first goal is working well, you may be able to help the student continue experiencing success by filling out a new goal setting form that is a duplicate of the first. The second evaluation would take place over a longer span of time.

If things are not going well, the student and teacher may decide that they need to modify the responsibilities of the teacher and the student, or that they need to set up an individualized reinforcement system.

The intent of goal setting is to get the student motivated to want to change his or her own behavior. If successful, goal setting is much less work for the teacher than a formalized behavioral plan, and may be more long lasting because the student was actively involved in learning to change his/her own behavior.

Figure 2 shows a goal setting form that may be useful as a model.

Figure 2

GOAL SETTING FORM

STUDENT: Martin Schroeder

CLASS: U.S. History

DESCRIPTION OF THE PROBLEM: Poor use of class time, and problems with handing papers in on time

GOAL: Martin will raise his grade from a "D" to a "C"

STUDENT RESPONSIBILITIES FOR ACHIEVING THE GOAL:

1. Martin will come to class with a sharpened pencil, his textbook, and notebook paper.
2. When an assignment is given, Martin will immediately write down the assignment on the top of a clean sheet of paper.
3. When the teacher tells students to begin working, Martin will immediately open his book and begin the assignment.
4. If Martin has questions, he will use the open book signal and go on to the next part of the assignment.
5. Martin will stay on task to the best of his ability.
6. Martin will give his best effort to keeping up with 10 minute pacing intervals that he and Mr. Johnson set up.
7. Martin will complete unfinished work at home and turn work in on time.

TEACHER SUPPORT RESPONSIBILITIES:

1. Mr. Johnson will periodically check to see that Martin has all needed materials when he enters the classroom.
2. As soon as he has time, Mr. Johnson will check to see that Martin has written down the assignment correctly.
3. Once the class has started work on the assignment, Mr. Johnson will help Martin break the assignment into parts that could probably be completed in ten minute periods.
4. Mr. Johnson will periodically check to see whether Martin needs any help.
5. When Martin is working hard, Mr. Johnson will walk by his desk and comment on his work.
6. Mr. Johnson will immediately check off work handed in on time at the beginning of each class period.

EVALUATION PROCEDURE: At the end of one week, Martin and Mr. Johnson will go over the grade book and count the number of assignments completed on time versus the number of assignments completed on time the week before.

DATE OF GOAL EVALUATION: Friday, 3:00

STUDENT'S SIGNATURE ____________________

TEACHER'S SIGNATURE ____________________

Book Reviews

Study Strategies: A Metacognitive Approach
By Jan Sheinker, Alan Sheinker, and Linda Stevens
Published by White Mountain Publishing Company, Box 1072, Rock Springs, Wyoming, 82902, $38.00 for manual and spiral bound book.

Study Strategies is a tested direct instruction approach to teaching strategies of *skimming, summarizing, note taking,* and *outlining* to students in grades 4 to 12. Materials are provided for conducting a workshop for teachers as well as for the direct training of students through a series of lessons that build on each other. In teaching structured skimming, students are taught to follow seven steps: (1) read questions for the material, (2) read first and last paragraph, (3) read first and last sentences of all other paragraphs, (4) answer questions for material, (5) locate key words for unanswered questions, (6) reread sentences or paragraphs containing key words, (7) answer remaining questions. Similar structured strategies are taught for the other major study skills through practice and feedback activities, including charting of time and accuracy.

While data on program effectiveness are not presented in the Manual, the Sheinkers will provide on request copies of a study of the effects of training on reading comprehension. The program is well organized and thoughtfully presented. Study skills are an important set of self-management behaviors which all students need to be taught, but very few are today.

By Wes Becker

Marva Collins' Way.
By Marva Collins and Civia Tamarkin.
Los Angeles, CA: J.P. Tarcher, 1982.

Whether you're looking for a way to recharge your professional batteries or merely looking for a good story, you'll find both in *Marva Collins' Way*.

The book is, at once, a first person narrative and a second person documentary and analysis of the approach and the success of one of America's most publicized—and controversial—teachers. Marva Collins, the teacher, and Civia Tamarkin, an educational journalist, take turns describing what they do and what they see in the classroom, respectively. While a book written in this style would have a tendency toward disjointedness, this volume contains an interesting interweaving of each author's perspective. Their respective contributions balance and complement each other nicely. The result is a book which is professionally fascinating and a story which is personally uplifting.

Collins' notoriety stems initially from a documentary segment on her work aired on CBS' 60 MINUTES. The segment led to numerous newspaper and magazine articles and eventually to a made-for-TV movie, *THE MARVA COLLINS STORY*. When Ronald Reagan began his presidency, Marva Collins was one of his candidates for Secretary of Education. Controversy over her work began when some Chicago area educators and a local newspaper began questioning her claims about the initial status and eventual success of the students attending the nonsense, no-frills school she began in her own home after becoming disillusioned with public schooling in Chicago. The controversy has faded, but it has never been resolved. There remain those who doubt and criticize her and those who believe in and admire her. Personally, I am in the latter group. Regardles of her actual, documentable results with her own students, she has raised in many of us the conviction that all students can learn and the belief that they are capable of much more than we usually give them an opportunity to learn. In doing so, she has brought some much needed fire to the frozen state which sometimes characterizes education. Her book fuels a similar fire in the reader, thawing new possibilities of achievement for our students and warming our beliefs in our own capabilities as educators.

By Stan Paine

Corrections –

Continued from Page 9

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