ADl 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 a teacher in the follow-through program. She has been a reading teacher in two school districts since then. In 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 eventually eliminated and Jan stepped in to help others write the supplementary lesson plan so that the 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."

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 a year at Tuscaloosa. Alabama, when they moved back home, they accomplished what they had set out to do. Roberta was nominated by 20 teachers and principals who worked with DI in Tuscaloosa. We quote from their nominating letter:

"Ms. Weisberg is currently the Compensation 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, Roberts 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. Roberts 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. Since that time, students in these schools have shown a marked improvement.

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 continues to contribute 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."

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 guys' 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 Dwiggin's that we need a LinkedIn group 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 a long time since we've seen each other in Dayton.
The three other Ohio members are:

James H. Coward-Hld, Ph.D.
2400 Buckeye Road
Columbus, OH 43220

Phyllis B. Goldberg
23871 Harms Road
Cleveland, OH 44143

Belinda Lazanas
1225 Fairgreen Drive
Lima, OH 45805

Also, Ed Kameneui is one of our graduates now at Purdue.

ADl 1985 Conference will be August 5th to 9th

The Direct Instruction News is published fall, winter, spring, and summer, and is distributed by mail to members of the Association for Direct Instruction. Readers are invited to submit articles for publication relating to DI. Send contributions to: The Association for Direct Instruction, P.O. Box 110452, Locene, Oregon 97445. Copyrighted by ADI, 1984.

DEPARTMENTS

Directors

ADL Awards continued from Page 1

Excellence in Research

Wes Becker made the presentation for Excellence in Research to Dr. Paul Weberg 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 1985-86 issue of the ADI NEWS. The following is taken from Wes Becker's presentation:

"The award for excellence in research goes to Paul Weberg for his outstanding research on the preschool education of children of poverty level children. Paul grew up in New York City, attended CCNY, George Washington University, and the University of Maryland. He returned to the University of Maryland for 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 directing Direct Instruction, Paul went through all of the ways not to teach at the preschool level with a large group of individuals. In the fall of 1975, we observed a Distar Reading 1 program in a rural all-black school. The teacher's training consisted of a week's workshop. Her pacing was marginal and she spoke in a monotone, hardly ever challenging the children. We worried about all those signals and drill teaching from scripted material. Yet, the children didn't seem to mind at all, so our astoundment...they energetically and carefully sounded out each word! (ADI NEWS, Winter 85-86, p. 16). At this time, Weberg was also impressed by a movie of the kids from the Berger-Engelmans preschool and by some early data on DI in Follow Through. Paul and his wife spent their sabbatical year at us in 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 6 months). He utilized the continuous program; the data show scores on these tests marginal. By 85% correct (unfamiliar word reading) to 97% correct (sound identification). During 1985, he collected a large volume of 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 as age groups (K-Aged and 1st-Learning Aged). Four-year-olds after one year are called K-Aged by Weberg and those in second grade called Learning Aged.) Weberg carefully documents the entry comparability of his groups and their skill development on the Slavin Intelligence Test over the past four years, 58 students in his preschool averaged IQ's of 87, with only 15 percent higher than 100.

The DI trained 1st-Starting-Aged group was consistently at the 74th percentile (34 grade equivalents) in standard deviations above the National average! Those with two years of DI = 31) averaged 3.8 grade equivalents. The K-Aged students averaged between the 77th and 99th percentile across program years. In comparison to studies of children with two years DI in preschool, these are the highest performances yet obtained. TI Berger-Engelmann preschool reaches 2.5 G.E in their second group at Anderson in Salt Lake City reached 2 with slightly above average children. The added time in Weberg's preschool was obviously used advantageously.

Comprehension skills were tested using end of first grade tests (Metropolitan Achievement Test - Median Grade Equivalents across program years 1st-Starting-Aged children were:

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

Not all groups performed at a chano level...

This is truly remarkable demonstration of what can be done in teaching poverty level children. It gives me great pleasure to name Paul Weberg the ADI Researcher of the Year.

To the ADI Board of Directors:
On Friday, August 10, the last day 819 this year's Direct Instruction conference I received a tremendous shock and great honor; I had been chosen the 1994 Direct Instruction Teacher of the Year. My surprise at that moment was so complete, I was overwhelmed. It was only then that the reality of what had happened began to sink in and I was charmed in recalling that when I presented with the award by Jan Dougal, I did not even acknowledge or express my thanks. I would like to rectify that now.

Randolph Spencer, in his opening remarks stated that the Association had decided to give awards to help encourage those in the field who are using DI and alleviate some of the feeling of isolation that they may feel. In this aspect you have done a wonderful job. I would like to add that in addition to this there is an additional courage to face those people and institutions which may stand in the way of the best possible instruction for children.

During the awards presentations, I was moved by Zig's description of the sociology of odds faced by Gary Davis an impressed by his accomplishments. Gary said that his award was important to him because he knew the pet peeve who had given it to him, understood exactly what he meant. I am proud and deeply honored to have been given this award by people from whom I have learned so much, and who have the highest respect and admiration. Thanks to each of you.

Sincerely,

Jan Hasbrouck
Eugene, Oregon
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 1022, Eugene, OR 97440.
A Private DI Pre-school Reports Findings

By Bill and Valerie Sandlin

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 supervisory 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 edition 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 20 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 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 tested in August, 1983 and posttested in June, 1984. The Woodcock Johnson Psycho-Educational Battery, Pre-kindergarten 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.

Table 1

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

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Months in Program</th>
<th>Age Score</th>
<th>Percentile Rank</th>
<th>Gain (SD = 15)</th>
<th>Stand. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-kindergarten</td>
<td>9</td>
<td>10</td>
<td>1yr-10mo</td>
<td>31</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>9</td>
<td>10</td>
<td>1yr-10mo</td>
<td>39</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

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 children 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 posttesting the mean CA of this group was 4 years-3 months and the 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 posttesting, 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 significant 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 pre-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 support 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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The Direct Instruction News will publish advertisements for materials (programs, books), training (conferences, workshops), and services (consultation, evaluation) related to direct instruction. All proceeds from the sale of advertising space will be used to help pay publication costs incurred by the News. Ad sizes and corresponding costs are as follows:

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

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4 DIRECT INSTRUCTION NEWS, FALL, 1984
Teaching Generalized Community Skills to Students with Severe Handicaps -

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 community 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, 1981). General Case Programming has been taught when, after instruction on some tasks in a particular class, any task in that class can be acquired or performed correctly (Becker & Engelmann, 1978, p. 325).

General Case Programming is a systems approach to teaching a class of stimuli across which students will ultimately be expected to perform. It is designed to maximize generalization of skills across varying settings and to reduce the number of trials required for instruction. The theory is that if instruction is designed according to general case programming guidelines, two studies conducted by McEachran and Williams (1984) and McDonnell and Horner (in preparation) employed classroom programming strategies to design classroom simulations targeting generalized community skills as the outcomes. 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 and with flash cards designating the amount of purchase, (b) role playing in the classroom with real registers at different amounts, and (c) role playing with the register in the classroom and in the community. Students were taught to purchase grocery merchandise in five grocery stores in which the student was not an employee. 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 nonmarketed environments.

A second study (McDonnell & Horner, in preparation) compared the effectiveness of combining general case programming in vivo training strategy with traditional training in a single in vivo environment. This study employed the previously described high school students who were taught a generalized grocery item selection strategy. This strategy consisted of: (a) a combination of slides of grocery store aisles and shelves in the classroom and training in a single grocery store, (b) logistical training in a single grocery store located near the students' school. Generalization was assessed in three different environments. The results of this study sampled the range of stimulus variation presented by all markets in the community. The results indicated that students who were trained in a single grocery store students were only able to locate between 40% and 60% of the target items in the nonmarketed environments. 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 logistic 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 complement) to the traditional community settings, and to design effective and efficient simulation formats. The remaining sections of this paper will present a general case 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 stimulus 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 stimulus present in the classroom are significantly different from those found in actual market. 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 could 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.

The simulation expands the conventional notion of simulation as a simple re-creation of an environmental or social situation. For counterbalancing differences 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 an ecological perspective of training general community skills, classroom based simulation has four functions: increasing both the content and depth of instruction. These include:

1. Decreasing the dollar costs associated within community environments.

Many community-based activities require an alternative to the public school purchase goods and/or services during instruction. For example, in order to learn how to pay for a lunch at a fast food restaurant, numerous trials of ordering and paying would be required. 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 classroom teachers can legitimately present to students is often constrained. For example, in the course of a 50-week 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 realistically access a number of trials during an instructional session.

3. Increasing the range of stimulus variation presented to students during an instructional session. The logical progression in the community often severely limits the range of stimulus variation that can be presented within a single instructional session. For example, it is highly unlikely that during any given instructional period a teacher could realistically access more than one single grocery store in teaching grocery item selection. A basic assumption of general case programming is that the mingling of members of the stimulus class that are maximally different and one another yet possess the same critical relevant features (Engelmann & Carnine, 1982; Jenkins, 1994). As such, 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 all general case programmers are members of the stimulus class, the instructional sequence must be designed to ensure that all members and non-members of the stimulus class that are minimally different from one another. Again, in a single environment 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 guidelines for assisting teachers in deciding when simulation is an appropriate alternative to training in the actual environment.

When to Use Classroom Based Simulation

Critical information that suggests whenever possible training should occur "Continued on Page 6"
Using Simulation — Continued from Page 5

3. Select simulation training examples. Obviously simulation training ex-
amples must be selected in order to satisfy the range of stimulus and re-
sponse variation present in actual environments, but attempts should be made to select examples which sample the range of irrelevant stimulus variation as well. These ex-
amples should be presented as "negative" instances in the instruc-
tional sequence. Further, in selecting training examples, the teacher should con-
sider the limitations of the medium used during training (i.e., photographs, slides, videotape, teacher made materials, the actual stimulus, etc.) to ensure that it provides proper reinforcement of setting conditions.

4. Sequence training examples. Instruc-
tional examples should be sequenced in order to instigate: (a) maximally different stimuli from the class, and (b) minimally different stimuli that are conceptually similar. This will allow the simulation format to teach both the range of relevant stimuli and the boundary of the stimulus class. In addition, the se-
quence should allow regular oppor-
tunities for previously learned discriminations.

5. Teach and test. Training during simulation does not differ from instruc-
tional tasks. The teacher should use the full range of instruc-
tional techniques available for re-
spective and efficient acquisition (Snell, 1978; Wilcox & Bellamy, 1979; Bellamy, Horn, & Inman, 1979). One significant difference be-
tween simulation and other classification tasks is the initial instanta-
ous assessment of student skill mastery should occur: (a) in the actual per-
formance 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 com-
plex settings. What is currently need-
hed, however, are empirically validated guidelines to assist teachers of students with severe handicaps in deciding when simulation is an appropriate approach to training in the actual environment and procedures for designing effective simulation formats. Until such guidelines and procedures are available, simulation should be employed sparing-
ly. The principle consideration in im-
plementing simulation formats should be the probability that it will produce generalized responding in community settings more efficiently than training in the actual environment.

References

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tion instruction on generalization to the natural environment. Journal of the Association for the Severely Handicapped, 6(2), 46-55.

Stean Palmer, Principal
St. Alice School
Springfield, OR

We see many articles in newspapers and magazines these days 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 inten-
tions of these many efforts, the entire school improvement movement will likely lead to little but a further distinc-
tion between students of various ability levels unless one critical point is acknowledged—that we will not have quality in our schools until by assessing that it is present. We will only have quality in our schools when we work very hard, and for a very long time, to keep our quality at a high level, one that can be sustained over a long period of time. Quality, in short, is not something that happens on a week or a month or even a year; it is something that takes much longer. And it is something that requires the commitment of all stakeholders, from the teachers and students to the parents and the community. And it is something that requires the commitment of all stakeholders, from the teachers and students to the parents and the community. And it is something that requires the commitment of all stakeholders, from the teachers and students to the parents and the community.

Quality assurance in education might indeed be easier to achieve under the more focused and explicit framework of quality assurance. Under such a framework, the focus is on establishing mechanisms for continual improvement, rather than on assessing the extent to which schools are meeting pre-determined standards. The focus is on identifying and addressing the specific areas where improvement is needed, rather than on simply measuring the extent to which schools are meeting pre-determined standards. The focus is on identifying and addressing the specific areas where improvement is needed, rather than on simply measuring the extent to which schools are meeting pre-determined standards. The focus is on identifying and addressing the specific areas where improvement is needed, rather than on simply measuring the extent to which schools are meeting pre-determined standards. The focus is on identifying and addressing the specific areas where improvement is needed, rather than on simply measuring the extent to which schools are meeting pre-determined standards.
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. Talbot (1977) reported that few studies have investigated the qualitative aspects of feedback given to students in error situations. 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, Kolb & Andra, 1971; Block & Tieney, 1971; Lasoff, 1981; Spence, 1966; Thorpe, Chiang & Darby, 1981; Yellin & Brady, 1978).

2. Basic correction. The learners are told whether their responses are right or wrong. Generally, they are less likely to understand the error than with more meaningful feedback, as they are merely told that their answers are correct or incorrect (Braine, 1977; Delquiard, Greenwood, Stretton & Hall, 1983; Swan, Kolvereid & Williams, 1979). However, Van Wagenen, Haywood & McCormick, 1964).

3. Elaborated corrections. The learners are told whether their responses are right or wrong, and are provided with additional information that explains why another response should be given in lieu of their wrong response.

A comprehensive review of Lysakowski and Walberg (1983) suggests that many teachers believe their students are right or wrong answers not significantly improve academic achievement. They suggest that students need to see a model of how to deduce a response in some or even different manners in order to demonstrate their understanding of the information presented. By observing teachers' modeling responses, students receive more detailed information about their incorrect responses. Elaborated feedback provides more meaningful feedback 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 this view. 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 (Gray, McAvoy & Keenan, 1983) and with mentally retarded students in training discrimination tasks (Siegel & Crawford, 1983). Engelmann and Car- pine (1982) have provided further theoretical support for the inclusion of more detailed correction procedures for teaching complex cognitive skills.

A series of 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 CAME: (computer-assisted instruction) program designed to teach a formal logic to second- year low-performers (remedial) and special education students. Formal logic was selected because reasoning skills in- struction 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 (Chertok & Bond, 1985).

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 fifth grade oral reading level, as determined by teacher judgment; (3) an understanding of the content larger and smaller class, as evidenced by passing a classification test; and (4) a reading comprehension deficiency of no more than 3 years on district-administered standardized reading comprehension tests.

Prior to the study, subjects were matched on scores from the analogous subtest 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

A Reasoning Skills program (Engelmann & Carnine, 1983) was designed to teach low-performing students three 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 "sylogism" or basic form. The program does not use the terminology "sylogism" 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 syntactic logic principles to include arguments that contain a premise with the first word "No" or "Some". Each argument also includes another premise beginning with "All". Additionally, this part of the program.

Table 1

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Classification Screening Test</th>
<th>Pretest</th>
<th>Woodcock Subtest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborated</td>
<td>23.57</td>
<td>1.15</td>
<td>10.57</td>
<td>4.33</td>
</tr>
<tr>
<td>Corrections</td>
<td>23.57</td>
<td>1.28</td>
<td>11.50</td>
<td>4.18</td>
</tr>
<tr>
<td>Basic</td>
<td>23.57</td>
<td>1.28</td>
<td>11.50</td>
<td>4.18</td>
</tr>
<tr>
<td>Corrections</td>
<td>23.57</td>
<td>1.28</td>
<td>11.50</td>
<td>4.18</td>
</tr>
</tbody>
</table>

Table 2

Illustrations of Elaborated Corrections

All architects are humans.

Question: Enter the number of the smallest class.

Answer: 4

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. 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.

DIRECT INSTRUCTION NEWS, FALL, 1984
program focuses on the soundness of the arguments and then tests for the learners' ability to distinguish sound from unsound arguments.

The arguments (and answers) in Table 3 illustrate the type of valid and invalid argument forms that are taught in the reasoning skills program. The four choices presented in the 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 CAl program was displayed on APPLe 11 and APPLe II Plus (with disk 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.

**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 pants are clothes. All pants are clothing. So, all pants are clothing.

**Answer:** 1

**Correction:** The conclusion has the word 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**

<table>
<thead>
<tr>
<th>Tests</th>
<th>Mean Correct</th>
<th>Standard Deviation</th>
<th>Mean Correct</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>6.0</td>
<td>3.67</td>
<td>7.0</td>
<td>3.35</td>
</tr>
<tr>
<td>Post</td>
<td>18.0</td>
<td>4.69</td>
<td>25.2</td>
<td>6.14</td>
</tr>
<tr>
<td>Maintenance</td>
<td>18.7</td>
<td>3.97</td>
<td>13.2</td>
<td>6.81</td>
</tr>
</tbody>
</table>

**Table 5 Summary of Performance on Transfer Test**

<table>
<thead>
<tr>
<th>Training Method</th>
<th>M</th>
<th>Range</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elaborated Corrections</td>
<td>12.07</td>
<td>8-16</td>
<td>2.97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Corrections</td>
<td>10.29</td>
<td>5-13</td>
<td>2.56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 Correction (BC) group (7.0) on pretest scores. This difference was not significant. Both groups had similar standard deviations on the pretest: EC = 3.67 and BC = 3.25.

A 2 x 3 analysis of variance (ANOVA) was performed on the number of correct responses on each of the 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 outperforming 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 significant difference between the two training groups (t = 3.78). The percentage of correct responses on the transfer test was low for both groups: EC = 53% and BC = 43%.

**Time Per Lesson**

When data were collected on the time students took to complete each of the five lessons to determine whether any difference existed between the two groups, a 2 x 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 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**

<table>
<thead>
<tr>
<th>Groups</th>
<th>EC</th>
<th>BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean SD</td>
<td>Mean SD</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>19.93</td>
<td>3.38</td>
</tr>
<tr>
<td>2</td>
<td>22.21</td>
<td>4.66</td>
</tr>
<tr>
<td>3</td>
<td>25.64</td>
<td>4.99</td>
</tr>
<tr>
<td>4</td>
<td>29.07</td>
<td>5.25</td>
</tr>
<tr>
<td>5</td>
<td>27.42</td>
<td>4.60</td>
</tr>
</tbody>
</table>

**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.
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, Everitt & 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 (Feud & Pincus, 1978; Walker & Burdick, 1972; and Wehmnn, 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 should focus on procedures for increasing transfer performance. While the BC Group scored significantly higher on the transfer 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.

References

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 as 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.

Discussion
The present study lends further support to the research conclusions of Green, 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-skill 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 (1985) and Miller and Ellsworth (1979) have criticized mastery learning practices because of the time teachers spent with individual students to correct errors. Arlin and Webster (1985) 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 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.
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  4. Proper Grouping of Students
  5. Proper Scheduling of Students
  6. Not Enough Time to Teach

- Students in and out of the Classroom Organization
  7. Lack of Planning Strategies
  8. Lack of Implementation Strategies

- Parent Support
  9. Lack of Understanding of Students
  10. Lack of Support for Programs
  11. Program Strengths and Weaknesses

- Evaluation of Programs
  12. Understanding Correlation of Programs

- Understanding the Professional Needs of Students
  13. Identification of Student Strengths and Weaknesses

- Student Placement That is Impractical
  14. Invented Use of Testing Instruments

- Invented Use of Test Data
  15. Invented Teacher Interpretations

- Student Placement
  16. Where To Place Students Initially Into Programs
  17. Where To Place Transfer Students
  18. Where To Place Students Who Are Not Successful
  19. Where To Place Students Who Are Highly Successful

- Classroom Visits: Results - Visit
  20. Those that are Negative and Non-Productive
  21. Those that Do Not Identify Problems
  22. Those that Do Not Solve Problems

- Classroom Visits: Scheduling-Planning
  23. Visit Purposes and Procedures
  24. Visits Not Made
  25. Visits of Inappropriate Time

- Funding Basic Skills Programs
  26. Acquiring Funds
  27. Combinations of Funding
  28. Sufficient Funding For Length of Time to See Desired Results

- Funding In-Service Programs
  29. Management/Supervisory Responsibilities
  30. Unknown Responsibilities
  31. Lack of Program Knowledge

- Management Skills
  32. Schedule of Events
  33. Effective Interpersonal Relationships

- Outside Resources
  34. Use of Outside Consultants
  35. Use of Parents
  36. Use of Community

- Parent Conferences
  37. Scheduling Conferences
  38. How to Conduct a Parent Conference

- Parent Involvement
  39. Parent Involvement in the Teaching Process
  40. Parent Assistance in the Teaching Process

- Support Staff
  41. Who Should Be the Considered As Support Staff
  42. Ineffective Use of Support Staff

- Teacher Conferences
  43. Failure to Structure Desired Outcomes
  44. Conferences That Are Not Positive

- Teacher Training - In-Service
  45. Lack of Systematic Training Program
  46. Not Dealing with Program Problems

MAINTENANCE SECTION

- Classroom Management: Environment
  47. Unknown Influencing Factors
  48. Control Of the Environment

- Classroom Management: Materials
  49. Not Using the Materials Selected
  50. Not Understanding Integration Of Ablenkah With Desired Objectives (Transformation)

- Teacher Problems
  51. Questions That Go Unanswered
  52. Problems That Do Not Get Resolved
  53. Students Who Need Remediation But Do Not Receive Appropriate Remediation

- Student Problems
  54. Unintelligent Teaching Time - Time On Task
  55. Incomplete Student Behavior Management

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DIRECT INSTRUCTION NEWS, FALL, 1986
By George Brent
Nicholas DiOddio
Glassboro State College

Camden, New Jersey Direct Instruction Project

Camden, New Jersey is located on the Delaware River opposite Philadelphia. With a population of over 85,000, the school district is the fourteenth largest in the state of New Jersey. It has a significant number of Black and Hispanic minorities, it is the largest city in southern New Jersey. It is facing 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 1967, the academic improvement program for Schools has been piloting innovative teaching practices that are based on behavioral research and have been modified through the years (Becker, Engelmann, & Thomas, 1970). These programs used the Direct Instruction process (Brent 1972) 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, Distar Mathematics, Corrective Reading, and Expressive Writing. In addition, the process of Direct Instruction Mathematics and Direct Instruction Reading are used as a general instructional strategy. 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 systematic wide adoption. In reading instruction, it is typical to find Direct Instruction instructions classes at a particular grade level while other classes are still receiving instruction in a traditional basal reader sequence. In mathematics, one out of four second grade classes used Direct Instruction. Teachers who voluntered in the program were selected after preparation in brief training sessions prior to implementation. They also receive help in their classroom several times each month.

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. Classroom-Administered Direct Instruction as a successful innovation based on subjective evidence was used. Usually students were "looked" like they were teaching and students "looked" like they were learning. The teachers were trained in the use of Direct Instruction and were liked. 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 time to test adequately and led to a firm conclusion that the programs were responsible for student achievement gains.

In the 1982-83 school year, attention turned toward designing and conducting a true experimental study. In the 1982-83 school year, the study was designed to measure student achievement gains and not score quadrupled. In the beginning of the school year, students were administered a reading readiness checklist and used by the school district. The tests include "reading readiness skills" like speaking in sentences, identifying objects in pictures, retelling stories, and noting likenesses. The scores were analyzed using a 2 way analysis of variance (school by treatment) and there were no significant differences on pretest.

Following the first two weeks of June 1983, the students individually tested the skills was required and the test and the teachers did not lack sufficient time to test adequately. At the beginning of the school year, students were administered a reading readiness checklist and used by the school district. The tests include "reading readiness skills" like speaking in sentences, identifying objects in pictures, retelling stories, and noting likenesses. The scores were analyzed using a 2 way analysis of variance (school by treatment) and there were no significant differences on pretest.

Beginning in the fall of 1983, the students who were given the Distar Test Form 3 (Thomlind and Hager, 1980). Standard scores were calculated as the unit of analysis. A 2 X 2 analysis of variance (school by treatment) was used for each composite student 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-Primay provided considerable evidence as to the students' listening, speaking, semantic, and syntax. There was one significant difference at the 0.05 level related to the cognitive abilities. The control group was significantly higher than the Distar group on the Spoken Language Composite score (t 4.09, df 168).

There were no significant interactions.

Various reasons may explain the n-significant differences. The Camden adaptation of Distar Language I did not replicate the best Direct Instruction programs. Camden used an ad lib, and provided limited training to the teachers. Monitoring of the classroom implementation and administration of the program was a problem. The teachers did not adhere to the lesson-a-day standard and were treating the program as a basal reader series. The students were not taught to both Distar and the control group 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 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 pretest 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 phonemic elements. The inventory was 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 monitered 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: Standardized Comprehension, Passage Comprehension, and Total Reading.

Scale scores were chosen as the unit of analysis. A 2 X 2 analysis of variance (treatment by school) was used to analyze each of the three reading scores. 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 324.2, significantly higher than the basal reader mean of 315.6. The difference on Total Reading was very close to the usual significant. 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 in Camden are best described by the fact that the students who received the Direct Instruction followed the program and were good on national norms. This was a great improvement over the previous years when the students were below the national average. Therefore, the Direct Instruction was a success in Camden.
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Social Skills Training, DL, and Videodisc Technology

By R.J. Thorlildsen
Utah State University

A study was conducted from January through May of 1984 to investigate the effects of the Interactive Videodisc Social Skills (IVSS) program for children who have been identified as mildly handicapped and who have been placed in regular education classrooms as 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 regular classrooms will result in increased mutual social interaction between the two groups. There is increasing evidence, however, that handicapped children are placed in regular classrooms as a result of their nonhandicapped peers. The handicapped students have been observed to perform more accurately than students with disabilities. The Voice level, intonation, eye contact, body position, and other nonverbal behaviors were monitored.

With the exception of the first day, each of the first six 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.

Over responses by the students are required when working in small groups and discussing the videodiscic scenes. All students in the group are actively involved in the learning, observing, 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, but offer the advantage of being capable of playing digital video and present all the frames of excellent quality. The hardware components of the IVSS program consist of a Pioneer 7820-II videodisc player, a color monitor, and a data processor. The microcomputer built into the videodisc player is used to control the logic of the system through routines written to store 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 subjects were classified as neglected, accepted, or rejected. Data on the student's social behavior, acceptance by nonhandicapped peers, self-evaluation, and self-concept assessment 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 subjects 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 or if the independent variable 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 analysis. The data were analyzed using both students and classrooms as the unit of analysis. When statistical significance was found using student as the unit of analysis, the analysis using classroom as the unit of analysis was also conducted.

Table 1 lists the unadjusted and posttest mean scores, and the results of the appropriate analyses used to answer the major questions of the study.

Using students as the unit of analysis the experimental group scored significantly higher on post-treatment peer acceptance than did control group. Positive behavior was also greater in the experimental group than in the control group. The null hypothesis was rejected.

Educational Imporant

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 mainstreamed handicapped children have shown significant improvements in peer acceptance.

It was difficult to determine the incremental value of the videodiscic system. An analysis of the videodiscic technology and total training program was conducted. It was concluded that the videodiscic enhanced the quality of social skills training for use in the classroom. The videodiscic technology of the IVSS program will be made available.

Table 1

<table>
<thead>
<tr>
<th>Measures</th>
<th>Unadjusted Treatment Groups</th>
<th>Pretest Mean</th>
<th>Posttest Mean</th>
<th>Adjusted Posttest Mean</th>
<th>F Value</th>
<th>Prob. Level</th>
</tr>
</thead>
<tbody>
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<td>Social Skills</td>
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DIRECT INSTRUCTION NEWS, FALL, 1984 13
Computer-Assisted Instruction - A Review

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Northwest Regional Educational Laboratory
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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-computers. Micro-computers with enough power to provide CAI practice, problem solving and simulation are now quite respectable, some costing less than $1,000. Over a four-year period, such a system could cost less than $500, including the cost of hardware, 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 differences between traditional and CAI instructional methods are being worked out in student responses to CAI.

Major Findings
Achievement. Studies on CAI show relatively high consistancy in their findings. Almost every study finds that traditional instruction, supplemented by CAI, is as good or better 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 conclusive. Most of the studies reviewed by Edwards and her colleagues (1974) do not find that CAI improves achievement over 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 calls for further 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 studies find that CAI students have a better attitude toward the subject matter than students who received traditional instruction alone. Not only do they not suppress their teaching attitude, and their review found one study with more negative attitudes in the CAI group. This was the Indiana Community College study which found less achievement in one of the CAI groups. The 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 students to be more efficient, and they complete the material in less time than the 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 as well motivated and as well achieving as many 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 the idea by itself, but it is a valuable tool which allows CAI students to improve 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 material are not supported by the evidence 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 high 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 high-achieving students and with students who tend to be alienated by traditional teaching methods.

It is recognized that the development of CAI programs may be extended to 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.

References
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Becker, W.C. Teaching reading and language to the disadvantaged—what we have learned in the last five years. Hawaii Educational Review, 1977, 47, 218-243.
Direct Instruction News, Fall, 1981

Teacher to Teacher

Goal Setting

By Randy Sprick
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(Coauthor 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/her 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 help Martin learn 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/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 identify the borderline between acceptable and unacceptable behaviors.

Next, identify a positive goal. A positive goal requires a student to "do" something. When students have prob-

lems 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. Write a paper on something 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 optimistic in evaluating work.

Observing the student more frequently.

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 measurable way to determine whether the student is making progress.

One way of accomplishing this 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...
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 she will need to perform 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 may make it easier.

I’m concerned about your grade in this class. 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 he would like to be like when he is out of school. Help the student identify goals from the situation he 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 recognize 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 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, 3/90

STUDENT’S SIGNATURE ____________________________

TEACHER’S SIGNATURE ____________________________

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Book Reviews

Study Strategies: A Metacognitive Approach
By Jan Shuliker, Alan Shuliker, and Linda Stevens
Published by White Mountain Publishing Company, Box 1072, Rock Springs, Wyoming, 82902, $30.00 for manual and spiral bound book.

Study Strategies is a tested direct instruction approach, with proven 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 first and last paragraph, (2) read first and last sentences of all other paragraphs, (4) answer questions for material, (5) locate key words for unanswered questions, (6) read sentences or paragraphs containing key words, (7) answer remaining questions. Similar structured strategies are taught for 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 Shulikers 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.

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 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 intervening 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' noteworthy 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 the 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 and narrative and a second person document.

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