# Direct Instruction *news*

DON CRAWFORD and RANDI SAULTER, Editors

## New DI Features, Tools, and Insights

### In this issue

Spring is the time for new beginnings, and this Spring issue of the *DI News* is no exception. In this issue we are inaugurating two new regular features. First, we are beginning a series by members of the ADI board. In each issue one of the ADI board members will write an article addressing an ADI issue, a teaching issue, or a story about their experiences using DI over the years. This issue's contribution is from Milly Schrader recalling her 22 years as a principal. Milly tells how she worked toward excellence at her school and describes the role DI and her training with Zig Engelmann played in her success. Principals should read this article closely—there is a lot of valuable information in a short space. Also new from SRA/McGraw-Hill are a couple of very useful online tools that we thought our members would like to know about.

Our second new feature is a recurring contribution from Randy Sprick. Randy has long been involved with and friendly to DI while doing a great deal to help schools around the country develop into more "Safe and Civil Schools." That's also the name of his consulting company. In this issue, Randy discusses "Classroom Management Models that Don't Work: Considerations for Administrators." Many classrooms are stuck following models of management that don't work, and it is important to understand how and why that happens.

In a previous issue (Summer 2008), you may recall the article "Remedies for Fixing Problems of Lack of Mastery (Without Sacrificing Lesson Progress)." The article named 19 remedies that wouldn't involve redoing entire lessons or moving students back

in the program. This issue we have the companion piece, "Remedies for Fixing Problems With Lesson Progress (Without Sacrificing Mastery)." The article lists 14 remedies that can help if students are not completing a program level in one year. We have found that coaching problems of slow lesson progress are harder than fixing problems with mastery—so we hope you find this article helpful.

We have stories of success with DI from many places. One is a story of accomplishment with *Corrective Reading* from three junior high schools in Clay County, FL. *Reading Mastery* is helping Cheyenne Mountain Charter Academy in Colorado Springs, CO, experience greater success than the state averages. Vallivue School District in Caldwell, ID, is closing the achievement gap of its LEP population by using *Horizons* and *Language for Learning*. The Tularosa Municipal Schools in New Mexico are also closing an achievement gap by using *Reading Mastery* and *Corrective Reading.* Finally a unique partnership between the University of North Carolina-Wilmington faculty (our own Dr. Marty Kozloff) and student volunteers with the Wilmington Hillcrest Community Center has created a reading tutoring program using Direct Instruction. The student tutors have been trained by staff from the Roger Bacon Academy (a DI charter school in the area). The results are overwhelming—read the article to see!

Zig and your editors have put together an article that addresses a key question in education. "Instructivists" (as opposed to constructivists) have long maintained that more instruction and mastery of specific skills can increase

# Contribute to DI News:

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

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

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

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

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

**Book notes:** Review a book of interest to members.

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

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

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

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

Completed manuscripts should be sent to:

<div align="center">

ADI Publications
P.O. Box 10252
Eugene, OR 97440

</div>

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

the rate of learning of new, similar skills to the point that differences between students are negligible. Yet ordinary experience leads educators to notice that differences in rates of learning seem to persist over the years in school. Resolving that dilemma is the central idea of this article. We hope it contributes toward your understanding of this important issue. Moreover, we hope that it gives you pause to think and discuss it!

Dr. Kozloff has brought us an awesome contribution for this edition of the *News.* His article "Well-designed Materials and Instruction" is packed full of information and many links and references for follow-up. What a gift to us all to be have such a wealth of information handed to us in a "user-friendly" format.

We hope that you enjoy this issue of the *DI News.* Here's to a spring filled with new beginnings, and continued growth! *ADI*

**BRYAN WICKMAN, Executive Director, Association for Direct Instruction**

**MILLY SCHRADER, ADI Board of Directors**

BRYAN WICKMAN, Executive Director, Association for Direct Instruction

MILLY SCHRADER, ADI Board of Directors

# Lessons Learned: A Retiring Principal's Experiences

The first thing I learned as a new principal 22 years ago was that I needed to get my school ready for instruction, just as a teacher needs to get structure in place before instruction. Understanding that nothing happens in isolation at a school, I needed to focus on first things first and methodically work on the details within the systems that must be in place for a school to be successful. As a principal, my school was now my classroom.

I was elated. I was confident I was going to make a difference in a school that had lots of room to grow. I had been assigned to a Title I school that had student performance data below the 25th percentile almost across the

grade levels. There was no consistency in grade-level curriculum and no school-wide discipline system. We had 1,000 K-6 students, a large number of whom received free or reduced-price lunch. There were 19 different primary languages spoken with well-distributed ethnicity. Because I had studied with Zig Engelmann and had been a Follow Through project manager, I thought I was ready for the task. I had been given the mission to improve the culture and the performance of these students.

My first lesson was painful.

## Lesson 1: Support is Limited

Whatever I did was supported by my administration—until a teacher called

one of the unions or a parent called the district office. I learned to work within the established system because I was alone and unprotected if there were complaints. (I remember saying to my director, "Let me tell you the facts about this situation." His reply was, "The facts do not matter. It is the teacher's/parent's perception that you have to contend with.") My district had a well-known, positive relationship with the teachers' union and the community. The district was not going to allow the actions of a new principal to damage the relationship they had worked so hard to develop, even if I was just trying to hold teachers accountable.

Now I knew the rules of working with teachers and management. It could be done, but it did not feel very effective. Students needed to be taught, and I wanted to see growth immediately.

## Lesson 2: Go Slow to Go Fast

I spent a year watching, listening, and learning about each staff member. I learned their strengths and needs. I evaluated the strengths and weaknesses of the system. The information I gathered made it clear that establishing consistency and routines had to be my first goal. For example, we did not have a multipurpose room, so the students ate outside on a grassy knoll for lunch. This was a dangerous duty for me as the school was in Sacramento, CA, close to the Pacific Ocean, and the seagulls would fly overhead to pick up any tidbits of lunch left behind. I will let your mind imagine the results of our outside bird estuary. If it rained, the students ate in their classrooms. Teachers still had to get their duty-free lunch, so rainy days were not fun for an administrator trying to cover all those classrooms. We needed a better system.

Developing systems was tedious and time consuming. However, once a system was set up, fine-tuning in subsequent years was relatively easy. Once routines were in place, teachers and administrators could focus on instruction. I met with the leadership team and we hammered out recess times, lunch times (We had six lunch periods—who would start lunch at 10:30?), rainy/inclement weather day schedules (We were a year-round school, and when the summer days reached 100+ degrees the students had to stay inside), assembly schedules, minimum day schedules, prep schedules for teachers, bilingual teaching assistants' schedules, before- and after-school schedules, PTA evening events, student practice/performance schedules, spelling bee schedule, Oral Language Faire practice schedules, field trip plans, Dr. Seuss's birthday party, and more.

This work was all done in the spring at a couple of all-day Saturday retreats at my house. The leadership team was expected to attend, but all staff members were invited. No one was required to be there. Those who assisted knew how hard this planning was and, consequently, they were less likely to complain. Before school started in July, all

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

American Preparatory Academy
*Draper, UT*

Baltimore Curriculum Project Inc.
*Baltimore, MD*

Barren County Board of Education
*Glasgow, KY*

BCIU
*Reading, PA*

Beacon Services
*Milford, MA*

Brighton Elementary
*Seattle, WA*

Cache Valley Learning Center
*Logan, UT*

Chief Leschi Schools
*Puyallup, WA*

City Springs School
*Baltimore, MD*

College of Micronesia
*Kolonia, Pohnpei, FM*

Criterion Child Enrichment
*Milford, MA*

Danville Schools
*Danville, KY*

Educational Resources, Inc
*Missoula, MT*

Evergreen Center
*Milford, MA*

Federal Programs
*Hagatna, GU*

Foundations for the Future Charter Academy
*Calgary, AB*

Franklin Pierce Schools
*Tacoma, WA*

Gering Public Schools
*Gering, NE*

ILSAE
*Indianapolis, IN*

Imagine Great Western Academy
*Columbus, OH*

James Irwin Charter Middle School
*Colorado Springs, CO*

JP Associates
*Valley Stream, NY*

Keystone AEA Instr. Services
*Elkader, IA*

Laurel Nokomis School
*Nokomis, FL*

Legacy Preparatory Academy
*North Salt Lake City, UT*

Livermore Joint Unified School Dist.
*Livermore, CA*

Los Molinos Unified School District
*Los Molinos, CA*

Morningside Academy
*Seattle, WA*

Mountain View Academy
*Greeley, CO*

Mt. Vernon Nazarene University
*Mt. Vernon, OH*

Mystic Valley Regional Charter
*Everett, MA*

National Institute for Direct Instruction
*Eugene, OR*

Oconomowoc Developmental Training Center
*Oconomowoc, WI*

Park Elementary School USD 428
*Great Bend, KS*

School District of New Richmond
*New Richmond, WI*

The Academy of Columbus
*Columbus, OH*

The Gregory School for Exceptional Learning
*Ancaster, ON*

Wildwood Academy
*Oakville, ON*

Winona Elementary
*Loveland, CO*

these items were published for staff, parents, and students.

## Lesson 3: Develop a School-wide Discipline Plan

The best way to keep a principal away from instructional leadership is to smother her with discipline. I implemented one rule: When a teacher wanted a student removed from the classroom, he needed to call the office and I would go to the class. I would then decide if the student needed to be escorted to the office or if I should take the class for the teacher so he could call the parent and deal with the issue himself. Very few issues require immediate administrative attention. The number of referrals dropped dramatically. If teachers called for an administrator, they did so with the understanding that they were giving up the decision-making power to me. The administrator should only see a student if a suspension is required.

## Lesson 4: Develop Teacher Teams

We created two teams. The school leadership team met as a decision-making body to resolve all non-instructional issues. This was an adjunct duty, and among the approximately 60 teachers on staff, several liked to be involved in these issues. We met once a month, and all staff could add to the agenda prior to the meeting. Anyone could attend, but each constituency had to be represented.

The most important team was made up of grade-level representatives. I selected these teachers. This, too, was an adjunct duty. These were the instructional, teacher leaders. This team led our school to be an organization that put student learning first because we looked at performance data. They were my arm of staff development. We had our job cut out for us. It took seven years before I felt like we had accomplished what I had envisioned our learning environment to be.

## Lesson 5: Develop a Mission Statement That is Simple and Doable

Here is the mission statement we created: We will teach our students to read, write, think, and compute. We will accomplish this by implementing quality curriculum, delivering effective instruction, and creating a positive, one-on-one relationship with every student on campus.

> I conducted a fluency assessment of every first-grader at the end of the first year. These data were the most enlightening data my teachers ever saw. They could not believe how poorly the students read independently.

## Lesson 6: Establish Grade-level Fluency Standards

To establish fluency standards, I followed these steps:

1. Schedule six assessments throughout the year.

2. Provide assessment tools for every classroom. Teach teachers how to give and score a fluency assessment.

3. Teach teachers how to use fluency data to drive their instructional decisions. This was done at grade-level meetings.

4. Collect and analyze the data from the grade-level leaders. When the principal does this, it helps establish accountability.

This is a simple way to establish school-wide assessments and timelines, and it opens the door for staff development based on student performance and progress data. After the system is established, more school-wide assessments can be implemented.

Now we were ready. It was 1987 and *Whole Language* was the district-adopted reading teaching strategy. We could read these beautiful books to our students and conduct activities about these stories. (In following years the district adopted *Open Court*. Our school was always expected to implement these core programs, and we did.)

I conducted a fluency assessment of every first-grader at the end of the first year. These data were the most enlightening data my teachers ever saw. They could not believe how poorly the students read independently. I met with the grade-level representative and we developed a plan. We then met with the grade-level teachers. I said to the teachers, "I will send you anywhere, to any school in the state of California, to observe successful 'intervention' programs. The only requirement is that the program has to show three years of positive student performance." That saved my budget, as there were not many places for my teachers to choose to observe. Of course, I knew that I wanted to implement *Reading Mastery*, so I steered my influential teachers to a very effective Direct Instruction program. The team decided to implement *Reading Mastery*. I ordered the materials and worked with all teachers to be sure that they had all the skills necessary for their students to succeed. The next year we modified this adoption process for kindergarten and second grades. Teachers visited their own colleagues at their own school and were most impressed.

My school continued to be my ever-changing classroom. I had to appear to treat all teachers equally, just as teachers do with their students. I used the union contract to accomplish this. Then I needed to differentiate my staff development plan for each teacher. Who could I train, who could lead, who would follow, and who was not teaching first grade again next year? This is the tricky part. After developing a relationship with each teacher, I had to counsel some to another grade level or even possibly a different profession. My staff knew that I was going to do everything I could to ensure that each student was at least on grade level when they left that grade. As long as I focused on student outcome data and the Direct Instruction programs supported it, teachers could not grieve me. The

teachers had selected DI. These programs were our "intervention." It was a given that we would be implementing these programs. Each teacher was not treated the same. Some needed more help while others were strong and independent.

## Lesson 7: Establish Grade-level Curriculum Plans

Each grade level developed a grade-level curriculum plan. It took about six years before every grade level had a plan that was acceptable to me and to them. Being a year-round school made this doubly important, especially from an evaluative perspective. One fourth-grade classroom would be on one lesson, while another fourth-grade classroom that had started the year a month later would be on a different lesson. Each teacher could be at the appropriate lesson, but how would I know without a plan?

The plan was developed with a school year divided into nine months. All curricular areas to be taught at a grade level were listed across the top. The plan also included all field trips and performances. This provided for optimum planning on the part of the grade levels. Each new teacher would be handed a grade-level curriculum plan; all grade-level teachers were expected to follow it. The plans were fine-tuned each year. Grade-level representatives were expected to update the plans in time for the next school year to begin. I met each grade-level representative and reviewed and approved the plans.

Grade-level team meetings were conducted weekly. (This is consistent with the union contract. I had only two short staff meetings a month.) The grade-level meetings focused on student performance indicators.

## Lesson 8: Implement *Spelling Mastery*

If I had to do it over, I would start by implementing *Spelling Mastery* in third grade, then expand to fourth, fifth, and sixth grades, taking four years. *Spelling Mastery* is easy for all teachers to like. Spelling instruction in other programs is not very good, but the students love *Spelling Mastery*. Also, inter-

mediate teachers see the problems that come with ineffective primary instruction. They want solutions now.

Here's how I would do it:

1. In the second year, I would implement *Reading Mastery* and *Language for Learning* in first grade. (Remember, I had a large English Language Learner [ELL] population.)

2. The next year I would implement *Language for Learning* in kindergarten and *Language for Thinking* in first and second grades. *Reading Mastery* would also be introduced to second grade.

3. The next year I would add *Reading Mastery* and *Language for Writing* in third grade.

The Special Education Learning Center had access to all DI programs, such as *Corrective Reading*, *Expressive Writing*, and *Reading Mastery*.

We were the first Title I school in our district to meet the state expectation of an API (academic performance index) of 800 or above school-wide and in all subgroups, including ELL, Hispanics, and African Americans. Our score was 823.

I am very proud of the development of a Peer Coaching Model made up of

grade-level representatives. This is my assurance that at least most of the instructional model had a chance to continue in my absence. Perhaps the vice principals that worked with me will be able to duplicate this DI model. The excellent teaching skills developed by staff will always be a part of every teacher's repertoire.

I loved being a principal. I loved working with a classroom of professionals, hungry to teach their students to read, write, think, and compute. It was fun to see teachers become expert instructors. They had the right tools, instructional support, and a safe learning and teaching environment. I cherish the knowledge I learned from Zig Engelmann. I had to make modifications to what he taught me in order to implement DI materials in my district. That may have frustrated him as I know it frustrated me, but I always had the data to demonstrate program effectiveness to defend my goals. My goals were always to see where I could use DI programs to teach students and support teachers more effectively. Zig gave me the confidence to know what an effective school looks like and the skills to make it happen. Thanks, Ziggy. *ADI*

DR. RANDY SPRICK, Safe & Civil Schools

# Classroom Management Models that Don't Work? Considerations for the Building Administrator…

Some teachers like a non-research-based, punitive model of classroom management because it allows them to send a student out of class any time the student's behavior is bothersome. If such a model is in place in your school, ask yourself the following questions:

- Are students frequently missing out on instruction because they are being sent out of the classroom (to the office, the hall, or another classroom)?

- Are the same "banished" students sent from the room over and over?

- Are you committed to implementing research-based practices in your building?

If the answer to all three of these questions is yes, you need to provide leadership and change the classroom management model.

Initially, staff may not like the change. The present punitive model can be very reinforcing—teachers can get rid of their problem students any time they want.

However, if you are committed to instruction (and to raising test scores), removing students from class ensures only that they are *not* participating. Besides, if this procedure were effective, it would change behavior and would not have to be used with any degree of frequency because it would work. Since the answer to the second question above is yes, it must not be working.

Maybe it's time to find a classroom management model that does work!

Two primary considerations govern your choice of a classroom management approach.

First, it should be consistent with the findings of the best research (school and teacher effectiveness literature) as it relates to classroom management.

Second, it should provide plenty of "how-to" information. An administrator who tells teachers they need to have routines and procedures but does not provide the *why* and *how* is courting failure. By and large, teachers simply do not have the time to translate raw research into daily practice.

By selecting a model that incorporates these two criteria, you connect your teachers with specific, realistic steps they can take right now to improve classroom climate, and in so doing connect the dots between research findings, your vision for the school, and what's actually happening in classrooms. *ADI*

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Excerpted from *Coaching Classroom Management: A Toolkit for Administrators and Coaches* by Randy Sprick, Jim Knight, Wendy Reineke, and Trisha McKale.

SRA / MCGRAW-HILL

# *Success Stories*

## *Florida Middle Schools Implement* Corrective Reading *with Fidelity; Pupils Reap Benefits*

Teachers at three Clay County, FL, junior high schools have implemented SRA/McGraw-Hill's *Corrective Reading* with such fidelity that students' reading scores are moving from low levels toward proficiency on the Florida Comprehensive Assessment Test (FCAT; see figures 1, 2, and 3).

Dr. Suzanne Herndon, district supervisor of reading and language arts, said the program began in the late 1990s and continues to be used today with all struggling readers scoring at Level 1 on the FCAT. The FCAT is scored in five levels, from a low of 1 to a high of 5. Students scoring at Level 3 and

| Clay County School District, Green Cove Springs, FL | |
|---|---|
| **About the District:** | |
| Grades: | K-12 |
| Number of Students: | 36,000 |
| Test(s): | FCAT |
| Reduced-price Lunch: | 26% |
| | |
| **About the Students:** | |
| African American: | 12% |
| Caucasian: | 78% |
| Hispanic: | 6% |
| Asian: | 2% |
| Other: | 2% |
| ELL: | — |

**Figure 1**

*Percentage of Green Cove Junior High Students
Scoring Proficient or Advanced in Reading*
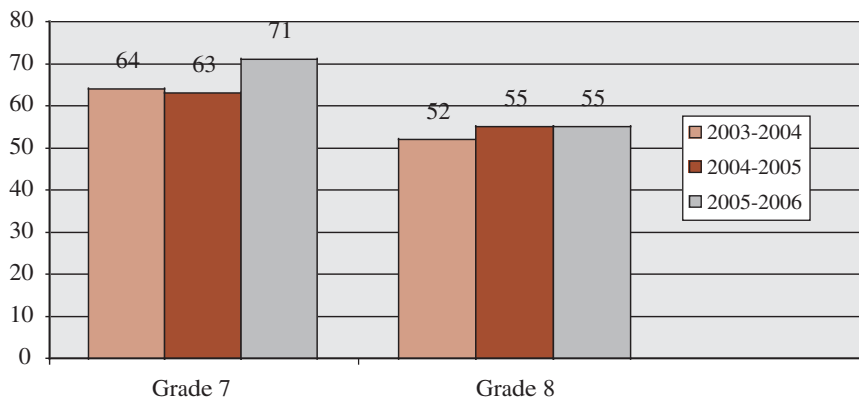


Source: FCAT

**Figure 2**

*Percentage of Lakeside Junior High Students
Scoring Proficient or Advanced in Reading*
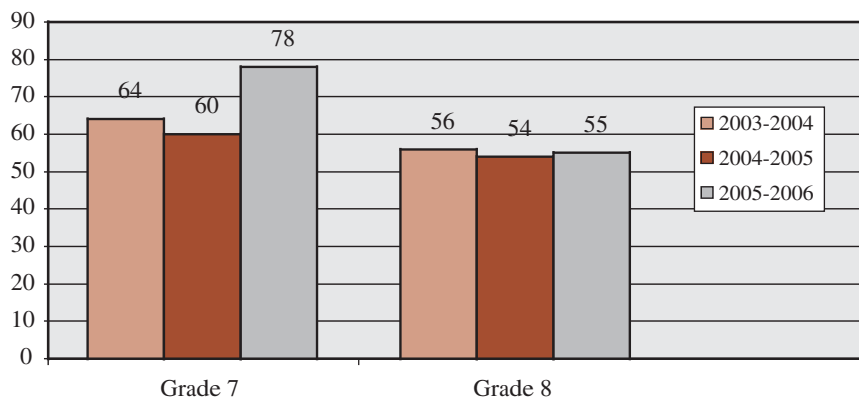


Source: FCAT

**Figure 3**

*Percentage of Wilkinson Junior High Students
Scoring Proficient or Advanced in Reading*
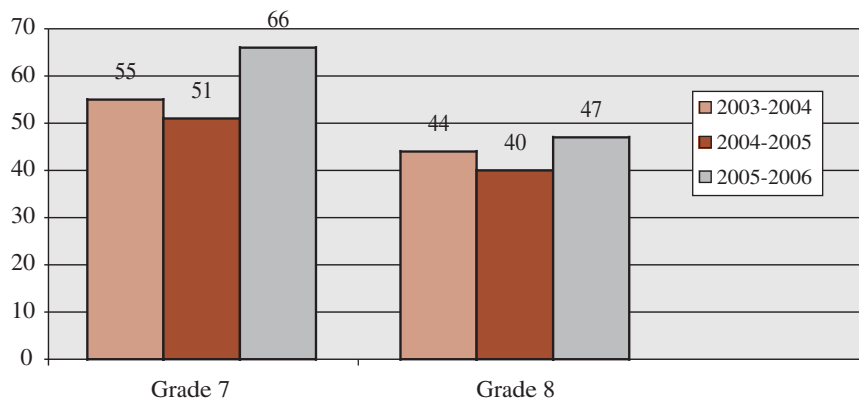


Source: FCAT

above are considered Proficient or Advanced.

Herndon said principals, teachers, and reading coaches at three particular junior high schools (Green Cove Springs, Lakeside, and Wilkinson) are so committed to the program that they ensure it is implemented with fidelity every day for 50 minutes.

"They all understand *Corrective Reading's* value, so buy-in is from the top down and teachers are fully trained," she said.

Elizabeth Shillings is the reading coach at Green Cove Springs Junior High School. She said *Corrective Reading* is used with all students scoring at Level 1 on the FCAT, which includes special education students and English for speakers of other languages (ESOL).

"During the 2006–2007 school year, we implemented an inclusion model for our Intensive Reading classes, which include special education students," she said. "Our district's special education reading supervisors recommended *Corrective Reading* as the core program rather than the special education course already in place, and we look forward to student progress. Our ESOL students also experience the program, but within a small group of their peers."

Shillings said one of the teachers told her she has had former students, now attending high school, return to tell her how much they benefited from the use of *Corrective Reading* in their reading and content area coursework.

"The program definitely helped give them the necessary 'tools' they need to have success in high school," she said.

Karen Hemmer is the reading coach at Lakeside Junior High School. She said she's a firm believer in *Corrective Reading* because she has seen the results first hand since she began teaching it in 1999.

"In addition to improved FCAT scores, students are experiencing success across classes. Usually by the third

quarter some of them tell me they earned an A in Language Arts or other content area classes for the first time in their lives," she said. "They give *Corrective Reading* the credit for this improvement, and so do I. The planned repetition, adherence to research-based strategies, all-encompassing coverage of the major elements of reading, and scripted lesson plans all make me confident that no area has been left to happenstance. I would not be able to gather together a program as carefully coordinated and with as complete coverage as *Corrective Reading*. I am not so arrogant as to believe that one individual could plan a program as comprehensively as a team of experts."

Sherry Walsh is the reading coach at Wilkinson Junior High School. She said *Corrective Reading's* decoding and comprehension components work espe-

cially well in a class of special education students.

"The teacher told me she has seen dramatic improvements in classroom management, reading fluency, and pride. The students' attitude has switched from 'I can't' to 'I can.' It's amazing to watch," she said.

## About Clay County Junior High Schools

Green Cove Springs Junior High School serves approximately 882 students in Grades 7–8. The student population is 79% Caucasian, 11% African American, 5% Hispanic, 3% Asian, and 2% multicultural. Twenty-four percent qualify for free or reduced-price lunch.

Lakeside Junior High School serves roughly 950 students in Grades 7–8: 82% Caucasian, 8% African American, 5% Hispanic, 2% Asian, and 3% multi-

cultural. Seventeen percent qualify for free or reduced-price lunch.

Wilkinson Junior High School serves about 860 students in Grades 7–8: 79% Caucasian, 11% African American, 5% Hispanic, 3% Asian, and 2% multicultural. Thirty-four percent qualify for free or reduced-price lunch.

Clay County School District serves about 36,000 students in Grades K–12: 78% Caucasian, 12% African America, 6% Hispanic, 2% Asian, and 2% multicultural. For more information about Clay County School District, visit www.clay.k12.fl.us.

## For More Information

If you would like to learn more about success with Direct Instruction programs in your school or district, contact SRA at 1-888-SRA-4543. *ADI*

# Success Stories

## High Percentage of Charter School's Students Testing Above National Average

Success abounds at the Cheyenne Mountain Charter Academy, thanks to *Reading Mastery.* An estimated 97% of students in Grades K-8 tested at or above the national average on the Iowa Tests of Basic Skills (ITBS) in reading in 2005.

Before the academy opened in 1995, its board of directors searched for a reading curriculum that had evidence of effectiveness. Principal Sandi Elsberry said because board members are big believers in research-based programs, *Reading Mastery* was a natural choice. "*Reading Mastery* has been a driving force for us from the very beginning, and it is one of the reasons our students excel," she said. The program is used in Grades K-6.

The academy's kindergarteners are introduced to *Reading Mastery* when school begins in August. Teacher Trainer Cindee Will said teachers work hard to accelerate all students. "It's not unusual for kindergarteners to end the year in *Reading Mastery II.*"

### Using *Reading Mastery* to Predict Success on ITBS

After 10 years with *Reading Mastery*, academy teachers are better able to predict student success on the ITBS by examining student progress with the program. "The data is our compass for the school," Will said. "When we have third-grade students in *Reading Mastery IV,* we know they'll do very well on the ITBS. Those third-grade students who move into *Reading Mas-* *tery V* score off the charts on the ITBS."

Continued exposure to *Reading Mastery* has also helped students score well on the Colorado Student Assessment Program (CSAP). In 2005, every Grade 8 student scored Proficient or Advanced for the fifth year in a row (see Figure 1). "Our eighth-graders are among the highest scorers in the state," Elsberry said.

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*Cheyenne Mountain Charter Academy, Colorado Springs, CO*

About the School:

| | |
|---|---|
| Grades: | K-8 |
| Number of Students: | 400 |
| Test(s): | ITBS/CSAP |
| Reduced-price Lunch: | 19% |

About the Students:

| | |
|---|---|
| African American: | 3% |
| Caucasian: | 76% |
| Hispanic: | 13% |
| Asian: | 4% |
| Other: | 4% |

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**Figure 1**

*Percentage of Students Scoring Proficient or Advanced in 2005*

| Grade | State | Cheyenne |
|-------|-------|----------|
| Grade 3 | 72% | 75% |
| Grade 4 | 64% | 90% |
| Grade 5 | 69% | 89% |
| Grade 6 | 67% | 98% |
| Grade 7 | 64% | 100% |
| Grade 8 | 64% | 100% |
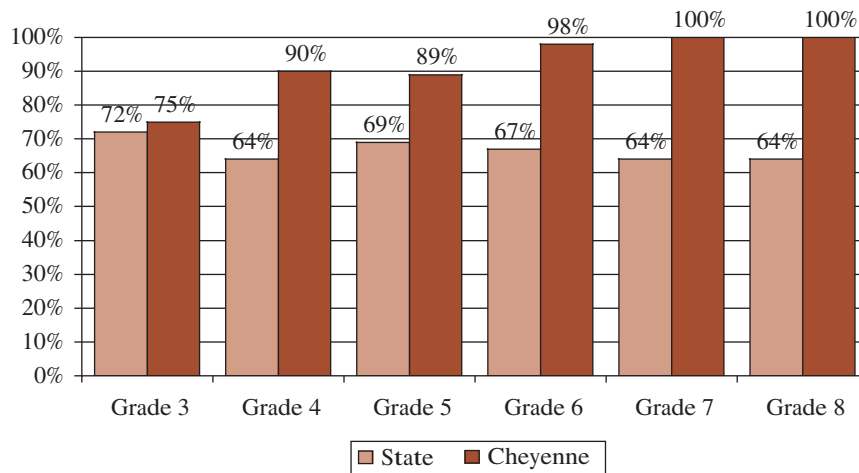
Source: CSAP

The state of Colorado also has recognized the academy from 2000 to 2005 for being one of the leading junior high schools (Grades 7-8).

"We'd love to take all the credit for our students' success, but we know it's because of Direct Instruction's airtight curriculum," Elsberry concluded.

## About Cheyenne Mountain Charter Academy

The academy serves more than 400 Colorado Springs students in Grades K-8: 76% Caucasian, 13% Hispanic, 4% Asian, 3% African American, 1% Native American, 1% Pacific Islander, and 2% multicultural. Nineteen percent of the students qualify for free or reduced-price lunches. *ADI*

# *Success Stories*

## *New Mexico School District Uses Direct Instruction to Close Reading Proficiency Gap*

The tiny yet culturally diverse Tularosa Municipal Schools, located about 150 miles southeast of Albuquerque, NM, is making large gains in reading proficiency. SRA/McGraw-Hill's Direct Instruction was introduced to Grade 3 at the start of the 2001-2002 school year. Since then, those children have progressed year after year until almost all read proficiently, as shown in Figure 1. By the 2004-2005 school year, they moved into middle school as sixth-graders.

The district includes one elementary school, one middle school, and one high school. Tularosa Elementary School Principal Melva Gimbel said teachers are keen to ensure elementary students read proficiently before they move on to middle school. "After three years with Direct Instruction, we watched the proficiency gap close among that group of children," she said.

That wasn't the case during the 2000-2001 school year when district educators discovered that 46% of Grade 4 and 51% of Grade 5 students were reading below the 40th percentile nationally.

Superintendent Brenda Vigil formed a district-wide literacy team to solve the problem. "This wasn't only an elementary school dilemma," she said. "A large percentage of middle school and high school students also scored below the 40th percentile on the Terra Nova."

The team recommended adopting SRA/McGraw-Hill's Direct Instruction—a research-based reading strategy that has been tested and refined to ensure it helps students learn effectively.

### Enter Direct Instruction

Two Direct Instruction programs were implemented at the start of the 2002-2003 school year via a 90-minute uninterrupted reading block: *Reading Mastery* in Grades K-5 and *Corrective Reading* for students reading below grade level in Grades 4-5. *Corrective Reading* was also incorporated into the middle and high school literacy pro-

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### *Tularosa Municipal Schools, Tularosa, NM*

**About the District:**

| | |
|---|---|
| Grades: | Pre-K–12 |
| Number of Students: | 1,019 |
| Test(s): | Terra Nova |
| Reduced-price Lunch: | 69% |

**About the Students:**

| | |
|---|---|
| African American: | 1% |
| Caucasian: | 32% |
| Hispanic: | 47% |
| Asian: | — |
| Native American: | 20% |
| ELL: | — |

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grams for students scoring below the 40th percentile on the Terra Nova.

Tularosa teachers reported tremendous success after just three months of Direct Instruction.

"The atmosphere changed immediately—to one much more focused on individualized and structured academics," Vigil said. "The students still have fun, and they like the program. They especially like that they can read! A Grade 1 teacher told me that 2003 was the first year in 20 years of teaching that all her kids could read before Christmas."

At the start of the 2003-2004 school year, teachers added additional Direct Instruction programs in Grades K-5: *Reasoning and Writing*, *Spelling Mastery*, *Spelling Through Morphographs*, and *Expressive Writing*.

Gimbel said the students are very comfortable in their instructional lev-els. "Even the older children don't realize they might be in a lower level than someone else because they are all finding success and are happy."

The elementary school's 90-minute uninterrupted reading block has also made a big difference. "The superintendent visited our classes one day," Gimbel explained. "She walked into a first-grade class, and one of the students said, 'Excuse me, you can't come in here. We're reading!'"

Gimbel added that all elementary staff teach reading during the 90-minute block each day, including the physical education teacher and the librarian. "This unifies the staff," she said. "Now the kids see these individuals as teachers as well as staff members."

## About Tularosa Municipal Schools

Serving more than 1,000 students in three schools, the district's student population is 47% Hispanic, 32% Cau-casian, 20% Native American, and 1% African American. Sixty-nine percent of the children are eligible for free or reduced-price lunch. For more information about Tularosa Municipal Schools, visit http://tularosa.k12.nm.us/main.htm. *ADI*



**Figure 1**
*Students Reading At or Above Grade Level*
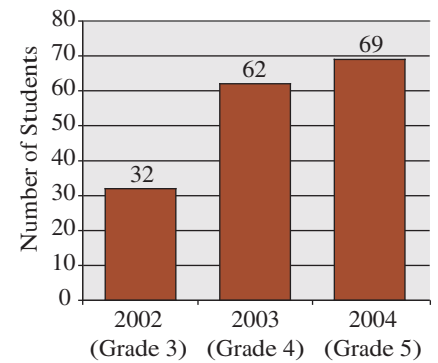
Source: Terra Nova

# *Success Stories*

# Horizons *and* Language for Learning
## *Close Achievement Gap Among Limited English Proficient Students*

Once several SRA/McGraw-Hill reading programs were adopted district-wide in Vallivue elementary schools in Caldwell, ID, test scores across subjects began to increase and the achievement gap began to close, especially among students classified as limited English proficient (LEP). Figures 1 and 2 demonstrate the students' achievement.

Kris Hopkins, federal programs, assessment, and instruction director, said the fall of 2005 was the first time teachers had used the same core reading program (*Open Court Reading*) in Grades

K–4 at all school sites and the same Tier 3 intervention (*Horizons*) with struggling students in Grades 2–4, including beginning LEP students.

"*Horizons* allows us to close the achievement gap much more quickly," she said. "This is the first time we've been able to accelerate struggling students more than one grade level during one school year, and if they move within the district from one school to another, they don't miss a beat because each teacher is teaching the same concepts at the same pace."

LEP students in Grades K–4 also experience *Espanol to English*, in conjunction with *Language for Learning*, followed by *Language for Thinking* to enrich their vocabularies.

In addition, students in Grade 4 may advance to *Language for Writing* so they

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*Vallivue School District #139, Caldwell, ID*

**About the District:**
| | |
|---|---|
| Grades: | PreK-12 |
| Number of Students: | 5900 |
| Test(s): | ISAT |
| Reduced-price Lunch: | 56% |

**About the Students:**
| | |
|---|---|
| African American: | — |
| Caucasian: | 69% |
| Hispanic: | 29% |
| Asian: | — |
| Other: | 2% |
| ELL: | — |

## Figure 1
### Percentage of Grade 3 LEP Students Scoring Proficient or Advanced in Reading
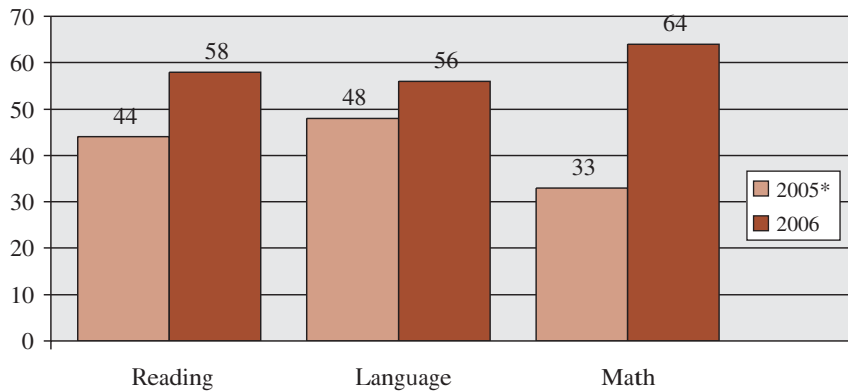


Source: Idaho Standards Achievement Test (ISAT)

## Figure 2
### Percentage of Grade 4 LEP Students Scoring Proficient or Advanced in Reading
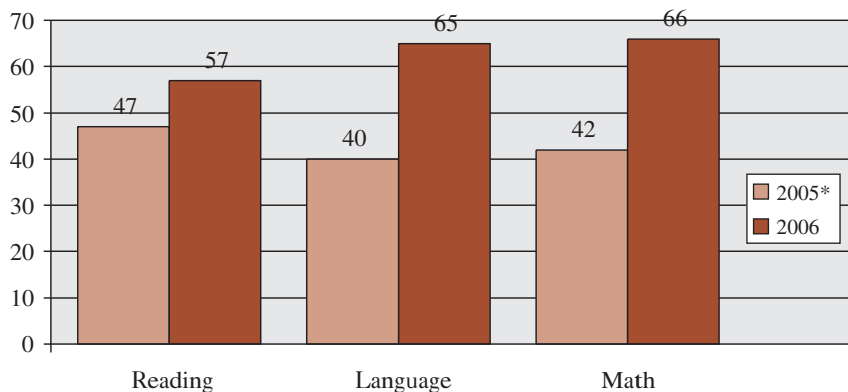


Source: Idaho Standards Achievement Test (ISAT)

can gain independence as writers. In Grades 5–8, beginning LEP students experience *Español to English* and *Language for Learning*.

Hopkins said *Language for Learning* is key for LEP students.

"This program teaches academic vocabulary so well," she said. "Not only does it help our LEP students with reading, but now we know this knowledge transfers into math and language achievement as well."

Hopkins said the district's classroom and intervention teachers, instructional coaches, and principals deserve all the credit.

"Our teachers talk to each other and help each other, and our kids reap the benefits. It's really rewarding to have consistent programs throughout our schools, and it's even more rewarding to work with such incredibly devoted educators," Hopkins said.

### About Vallivue School District #139

This district covers more than 140 square miles and serves nearly 5,900 students in Grades Pre-K–12. The student population is 69% Caucasian, 29% Hispanic, and 2% multicultural. Fifty-six percent of students qualify for free or reduced-price lunch, and 12% are classified as English Language Learners (ELL). For more information, go to http://sd139.k12.id.us. *ADI*
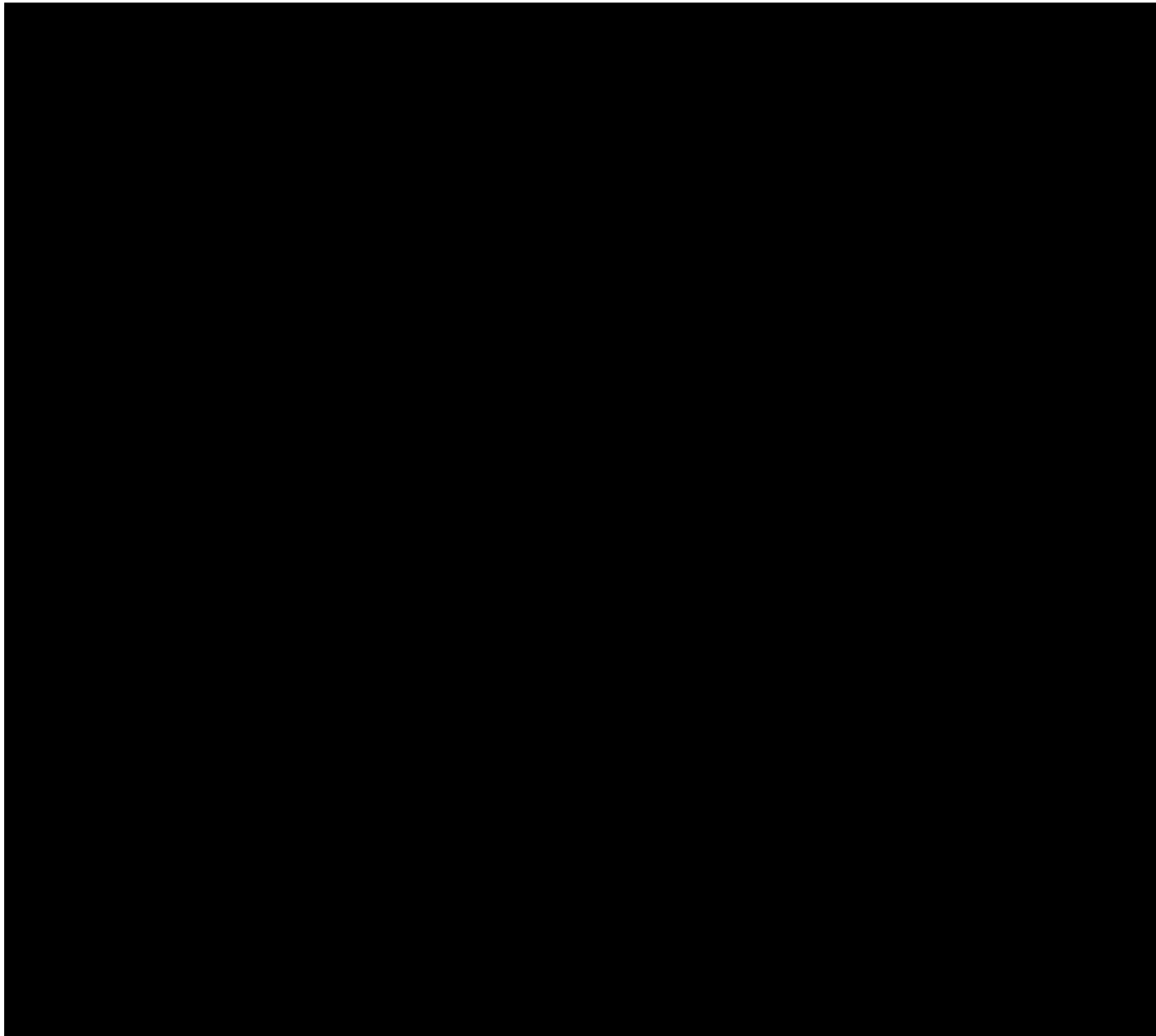
AMANDA LISK, Star-News (Wilmington, NC)

# UNCW Program Helps Children Improve Reading Skills

"This is a cat," reads 8-year-old Taleeyah Perry. "Mud is on the cat."

"You cruised right through that one!" says her tutor, Darryl Harrison.

Every Monday through Thursday, Taleeyah and Darryl meet after school at Wilmington's Hillcrest Community Center to read. Taleeyah is one of 17 elementary school-age students and Darryl one of 70 trained college tutors taking part in a new, aggressive reading program offered by the University of North Carolina Wilmington for at-risk kids.

"These are people who would never otherwise have access to something like this," said John Rice, UNCW sociology professor.

Rice, along with Marty Kozloff, a professor in education, and graduate student Eric Irizarry, put the reading program into action at Hillcrest after the annual North Carolina ABC's accountability report card showed a near 20% drop in academic performance

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among New Hanover County African American students within one year.

"Only 40% were at or above grade level last year. This year it was 22%," Rice said. "Only 22% of black boys in New Hanover County are at or above grade level and the rest are not? ... How is this ok? ... With anybody? These are children."

Setting up camp in the middle of one of Wilmington's downtown housing developments, the reading team moved in to the Hillcrest Center, recruited UNCW students to volunteer as tutors, and had them trained by the Roger Bacon Academy of Leland in a special phonics and repetition-based teaching model called Direct Instruction.

"It's scientifically validated as the most effective way to teach… It's backed by over 40 years of research on hundreds of thousands of kids," Rice said. "We knew it was going to work and it is."

Going door to door getting kids signed up for the free one-on-one tutoring

sessions launched the program in September with 17 students ages 4 to 8. Three months later with just nine hours of instruction, 13 of the 17 students enrolled were brought up to and above grade level. The other four tested even higher, with some now an entire year ahead.

"You can really see the transformation," Harrison said. "Before she'd be stumped and sit there and just look at it; now she looks at the story and piece by piece sounds it out and puts it together."

Taleeyah said, "I feel more comfortable now. Before I didn't know any words that much."

*Teach Your Child to Read in 100 Easy Lessons* by Siegfried Engelmann is the Direct Instruction book used at Hillcrest. It focuses on teaching five basic principles to master decoding and understanding of words. Rice said the Hillcrest kids went from not getting any sounds correct in September to getting 40 correct within a minute by December. More importantly, he said,

they went from not knowing how to read a book to devouring any book they can get their hands on.

"The collateral advantage to all of this is they're learning to love learning itself. They're not only learning to read, they're learning it's kind of cool to be educated," Rice said.

"All of them have made a drastic improvement," Irizarry said. "These kids have basically doubled their reading skills in 26 days. We didn't expect results that major in such a short amount of time."

The Hillcrest Community Center is now an official UNCW extension campus. UNCW Chancellor Rosemary DePaolo signed an official partnership agreement with the Wilmington Housing Authority that gave access to the Hillcrest facility and has been very pleased with the tutoring program's results taking place as a result.

"When you go down there, you can watch that learning happening right in front of you … It's impossible not to learn," DePaolo said. *ADI*

JIM HEADLEY, Gering (NE) Courier

# Governor Looks at Reading Program

Nebraska Gov. Dave Heineman spent Tuesday morning learning about Gering Public Schools' Direct Instruction reading program.

It would be an understatement to express that the governor was impressed with the program.

The governor toured Gering's Geil, Northfield, and Lincoln elementary schools Tuesday morning before sitting down with the school district's management team for a working lunch.

"If the Huskers were in the bottom 10 every year, we would be going through the roof. If we can win the national championship on the football field and the volleyball court, why can't we do it in the classroom?" Heineman asked

the district's management team at the district's Central Office.

Gering's third-graders, who were performing at grade level, were at 33% before DI. Today, those passing levels are at more than 80% in just five years.

Many in the Nebraska Department of Education believe those involved in the DI program are "renegades."

Heineman asked management team members about parent involvement and how teachers learn the "renegade" reading system. Team members told him new teachers go through a four-day-long pre-service training program and are monitored and assisted through the year with additional training.

The school district had company-furnished trainers available for teachers during the first four years of the DI program. Now the district has staff trainers in place.

"What would happen if next time I speak to all the board members, administrators, and teachers I tell them that they ought to do this (the DI program)?" Heineman asked.

After the laughter died down, one of the team members responded, "Run!"

Team members told the governor they met a lot of resistance concerning the DI program. They added that after peo-

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ple examined the dramatically improved testing and reading scores of students, most of that resistance died down.

"Teachers were used to being in private practice, doing whatever they wanted to do," one team member told the governor.

Heineman said he's been very focused on the academic performance of students across the state for a long time.

"What I really wanted to find out today is if this can work here, tell me if the Hispanic kid in south Omaha or African-American kid in north Omaha is any different than the kids you are teaching. No, I can't believe that they are. If you're succeeding, I want to make sure our kids are ready to compete in what I call the 21st Century Knowledge-Based Technology-Driven free market economy. I would like to share that success story with the state. If Gering is succeeding in reading, why not share that with the whole state?" Heineman said.

The governor said he likes the results of the DI program and he plans to bring more people from the state Department of Education and the University of Nebraska to the Gering Schools in order to give the DI program stronger support across the state.

"A couple of things I saw today that impressed me—number one was the attention span and the focus of the kids. They were engaged. They were paying attention. And eagerness to learn. If a youngster missed a word, you would immediately go back and correct it. Let them read it over and then their confidence is going to build," Heineman said, adding he didn't sense that any of the students felt poorly when they made a mistake. "They were there to learn."

Heineman said the students were so focused that even a visit from the governor didn't seem to disturb them.

The governor related the repetitive DI program to sports.

"How do you run the play better? You run it over and over and over again. Somehow we think we can't do that academically," he said.

After meeting with the district's management team for 90 minutes, Heineman said he was reluctant to leave.

"I have to go back to Lincoln. I'd rather stay here all day. Every child can learn if we provide the right motivation—that's our job. I did not see any of your kids today who were not actively involved. I have to get a few people on a plane and have them come out here," Heineman said, adding that reading test scores should not vary based on ethnic lines. "All we have to do is look at the president of the United States if we have any doubt whatsoever." *ADI*

# New DI Tools Engage Students, Educators

SRA/McGraw-Hill has launched the Direct Instruction eSuite, a comprehensive set of online tools that integrate technology into instruction to save daily planning time for teachers and increase student engagement.

The eSuite is available with Direct Instruction programs *Reading Mastery* and *Corrective Reading* as well as SRA's new adolescent literacy program, *Read to Achieve*.

"The state-of-the-art technology within the eSuite tools are designed to streamline daily lesson planning for educators and further engage students through the interactive component," said Mark Merz, SRA/McGraw-Hill's product manager for Direct Instruction and Intervention.

The components of online eSuites include:

- ePlanner—Create an academic calendar, preview lesson objectives and materials needed for each day, and check state standards for alignment to each lesson.

- Electronic Teacher's Edition—Preview program content electronically and prepare for upcoming lessons by accessing the complete Teacher's Edition online.

- Professional development—Access electronic resources for program training and information, review exercise formats through video and text-based instruction, and facilitate training through electronic presentation.

- eInquiry—Provide students opportunities to apply their understanding of concepts through independent and small-group projects using Web site resources.

- SmartSort—Determine when program vocabulary words are introduced, produce lists of words used within any range of lessons, enter brief text passages, and instantly view an alignment to all words presented in a program.

The eSuite is priced at $60 per teacher for a one-year subscription. See www.sradirectinstruction.com/esuite_teaching_technology for more information about the applications. An online product tour is available at http://www.sradionline.com.

## Free Online Tools for DI Educators, Administrators

DI educators and administrators can share tips and best practices about DI through the SRA Direct Instruction web portal. The portal, at http://www.sradirectinstruction.com, provides up-to-date information

about DI products, training and professional development opportunities, industry news, and current events. In addition, it hosts *Signals*, a free online community with access to resources for collaboration, training, and product information, including:

- Downloadable files of program brochures, sample lessons, scope and sequence charts, and additional information to help inform product purchase decisions. SRADirectInstruction.com will be integrated closely with SRA's eCommerce site (SRAonline.com).

- Links to press releases and news articles related to DI and intervention products, as well as links to relevant education industry articles, web sites, and additional sources of news and press.

- Information about upcoming training events, conferences, etc., as well as links to sites for registration and additional information.

- Online videos that introduce technology products available for DI programs and explain how the print and electronic components can be used in conjunction to improve overall teaching effectiveness.

- A DI teaching blog with articles written by publishing industry representatives, as well as guest articles from teachers, administrators, consultants, and other members of the academic community. The articles will discuss current and high-interest topics related to DI, educational politics, academic trends and innovations, and teaching.

- A DI educators' forum where educators can discuss product information, share teaching methods, and discuss any current issues related to education or teaching in the United States.

Users of *Signals* can send their colleagues and friends online invites to join the community. *ADI*

**DON CRAWFORD, Baltimore Curriculum Project**

D O N CRAWFORD, Baltimore Curriculum Project

# Remedies for Fixing Problems with Lesson Progress—Without Sacrificing Mastery

Sometimes classes and groups do not progress adequately enough to complete a level during the school year. Pressure to make lesson gains often leads teachers to ask which is more important—mastery or lesson progress. Of course, without mastery, lesson progress is not beneficial, so this is not an either–or decision. Instead, we want to help teachers find ways to make lesson progress without sacrificing mastery.

Part of the difficulty in addressing these issues is that the remedies seem picky. Suggesting that a teacher change practices to save a minute or two seems like unnecessary meddling. But saving a minute or two here and a minute or two there can be all that is needed to make the difference. Saving 12 minutes a day is one hour per week—resulting in 35 more lessons completed in a year. That is significant. The key to lesson progress is in saving small bits of time throughout the lesson. If teachers recognize that their aim is to make small differences in efficiency

so that students make more progress over a year, they may find these remedies more helpful.

## 14 Remedies for Improving Lesson Progress

1. Provide more time in the schedule. Make sure there is adequate time allotted in the schedule to do a lesson a day. Provide more time if needed. Consider these guidelines:

   *Reading Mastery*, first 2 levels: 90 minutes. Instruct for 25-30 minutes per group. Allow 15-20 minutes for independent work and 10 minutes for spelling per class.

   *Reading Mastery*, upper levels: 75 minutes. Instruct for 35 minutes per class. Allow 30 minutes per class for independent work and 10 minutes per class for work check.

   Language K (for Learning): 45 minutes per group. Instruct for 25-30 minutes per group. Allow 5-10 minutes per group for independent work.

   Language above K (Signatures or Reasoning & Writing): 45 minutes of instruction per class.

   *Spelling Mastery*: 15-20 minutes of instruction per class.

   Kit Spelling: 15 minutes of instruction per class.

   CMC, Levels A-C: 55 minutes. Instruct for 35 minutes per class and allow 20 minutes per class for independent work.

   CMC, Levels D-F: 75 minutes. Instruct for 50 minutes per class and allow 25 minutes per class for independent work, or less if students do the work at home.

2. Establish a more efficient work-check procedure. Make sure you complete the work check within 10 minutes, either at the start or the end of the lesson. The work check should use the most efficient way possible and be paced very briskly. Cut back on "re-teaching" or "student participation" if the work check takes longer than 10 minutes.

3. Reduce time lost in transitions. Make sure transitions are quick, quiet, and smooth. Routines need to be in place for correcting work, getting sharp pencils, getting out

correcting pens, turning in papers, getting out books and workbooks, etc. If transitions take more than 2 or 3 minutes during the lesson, practice them with students to reduce their duration. See Randy Sprick's book, *CHAMPs*, for ideas.

4. Cut back on extra "teacher talk." The occasional praise statement should be quick and to the point and shouldn't use up more than a couple of seconds. Do you find yourself stopping and lecturing students for being off task? Do you find yourself stopping and lecturing students about trying hard or doing better? Do you spend time "waiting" for students to be quiet? Instead of talking "at" the students, set up a system of reinforcement so you can quickly reinforce or provide consequences. Make sure your feedback regarding expectations is as efficient as possible.

5. Find ways of dealing with behavior that do not disrupt instruction. Procedures and routines should be in place to deal with behavior quickly and easily. Spending several minutes on a reprimand of one child while the rest of the class sits and waits is not a good use of time. Standard responses can address the issue with a minimum of fuss. The focus should be on getting back to the lesson as soon as possible—certainly within 10 seconds.

6. Motivate "first-time correct" to save time spent repeating parts. Make sure students are aware of the corollary of the part-firming rule: If you do it right the first time, we don't have to repeat! Give a little more think time and make sure students are motivated to answer correctly—and are attending carefully to instruction. If more than 25% of the parts have to be repeated due to errors, something is wrong. Look at student engagement rates—are they paying attention?

7. Eliminate the practice of repeating directions. If a class is not well managed and students are not paying attention, a lot of time can be lost repeating directions and mak-

ing requests that go unheeded. A key aspect of good classroom management is that students are attending and are able to carry out directions the first time they are given. Having to repeat directions and commands over and over can use up a lot of valuable instructional time. It is worthwhile for teachers to develop a system for rewarding and recognizing students for listening and following directions the first time.

8. Stop waiting for slower students to finish written tasks. The teacher should always move along in the lesson before all students are finished. This is important enough to repeat: The teacher should *always* move along in the lesson *before* all students are finished. It is critical to constantly send the message of urgency to get through the lesson and move on to the next part. Several minutes can be lost every time students are doing written work while the class waits for the slowest students to finish. The teacher should be actively monitoring and constantly moving during written tasks so that the class moves on

*before* all students are done. Students should spend less than a minute waiting for their peers to finish a set of problems. Students who work quickly should be praised. Slowest students can do the rest of the work later.

9. Eliminate re-teaching material to individual students. It is easy for teachers to get caught up in re-teaching to individual students who need help. However, this is very inefficient and sends the wrong message. It tells students that if they don't listen to the initial presentation, the teacher will give them a one-on-one repeat of the lesson. It suggests that there may be a better explanation coming, if the student just waits until the independent portion of the lesson. In addition, while the teacher is re-teaching, students who have finished the work are wasting their time (and this can be several minutes at a time). Instead, the teacher should keep moving and check for other children making the same error or having the same problem. If three or more students are making the same error, then it is appropriate to
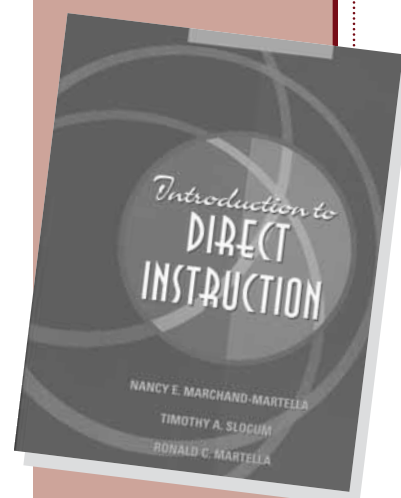
stop the whole class and re-teach using the language and examples from the script where the material was originally taught.

10. Reduce time students spend unproductively waiting for "teacher help." Students should know what to do, have the necessary materials, and begin work immediately when released to do so by the teacher. Devise a signal that students can use to ask for help and that allows students to *continue working* (e.g., something other than a raised hand). Routines should be in place for getting tissues, paper, or drinks of water, sharpening pencils, or using the restroom so that students can begin their work promptly and continue working steadily.

11. Cut back time spent on "review objectives" to about five minutes per day. Sometimes review is necessary. If more than 25% of a class had "real" errors and failed to learn an objective or two in prior mastery tests, review may be necessary. However, review should be limited to the first five minutes or so before the lesson begins, and lesson progress should continue.

12. Develop an explicit expectation to finish a lesson each day. If a lesson per day is not a goal, then it will not happen. Some students may not complete all items in all parts, but those last few items can be finished as part of homework (or possibly catch-up time at the end of the week). It would send a good message to start the next lesson the following day, saying "We didn't finish all the items on yesterday's lesson, but today I hope we will finish the whole thing. Let's get going!" Lessons are designed to present new information at the start of the lesson, review in the middle, and do independent work at the end. Completing only part of a lesson each day throws off the rhythm and limits students' success.

13. Assign as homework any part of the independent work not completed in class. Work will expand to fill the time available to do it. If students know that the longer they take to do their independent work, the less they will have to do (e.g., the teacher won't go on to the next lesson), the longer they will take. Conversely, students who know they will have to do the work at home if they do not finish it in class will be more likely to finish it in class. If there is no plan for homework (and all the independent work must be done in class), the students control the pace of the class by how long they spend doing the independent work.

14. Plan an incentive for the teacher and the class to finish a lesson each day. The school leadership team must recognize hard work in classes that are doing a lesson each day. Classes that are on track to complete their level in less than a year (e.g., that are doing a lesson each day routinely) should be allowed the opportunity to read novels and do math games or other activities that are motivating. The schedule can be worked out so that a few days are spent with these reward activities at scheduled times during the year. At the end of the year when students complete the level, they should be recognized, have a celebration, and have a greater choice of learning activities. *ADI*

SIEGFRIED ENGELMANN, National Institute for Direct Instruction, and DON CRAWFORD and RANDI SAULTER, Editors

SIEGFRIED ENGELMANN, National Institute for Direct Instruction, and DON CRAWFORD and RANDI SAULTER, Editors

# Mastery Learning and Rate of Learning

Most teachers notice that some groups of students seem to learn faster and seem to continue at a faster pace. Conversely, some students seem to take longer to learn the same content and continue to need more instruction. Yet according to proponents of mastery learning, as learners master each unit they learn the next unit of similar material faster and easier. Eventually, according to the theory, differences in rate of learning disappear. Can this be true, that instruction can erase differences in rate of learning even though differences in rate of learning appear to persist?

Yes, and the reason is obvious: The learner who is more familiar with the content and mode of presentation and has had experience learning other instances through that mode is not required to learn as much as the lower performer in terms of absolute amounts. And the lower performer cannot benefit from learning unless he gets closer to the high performer's plane, which means he must master the material, just as the higher performer has mastered it.

## Mastering Tasks Reduces the Time Needed to Learn Similar Tasks

*[Editors' note: Direct Instruction has its beginnings in work Zig Engelmann did with Dr. Carl Bereiter and others in an experimental preschool at the University of Illinois in the late 1960s. Here Zig describes that early work, which led to the* Language for Learning *instructional program.]*

Back when we first started out in the experimental University preschool, we did a neat experiment that demonstrated how instruction reduces time needed to learn subsequent skills. We had a routine for teaching classes of objects, such as vehicles, clothing, animals, materials, etc. We taught all the classes using the same structure. For instance, "I'm thinking of a car. Am I thinking of a vehicle?" versus "I'm thinking of a vehicle. Am I thinking of car?" For each class, a kid would have to learn the members (truck, motorcycle, car, train, plane) and the class relationships (all are within the class of vehicles). We had different games and

different routines to measure mastery. We presented the same four classes to all kids. All were very naïve 4-year-old disadvantaged children who did not know the four classes or the relationship of higher order to lower order. We taught the classes in different order, so that a couple of kids would start with vehicles and another few would start with animals.

The result was a tremendous savings in trials to criterion for the later classes a kid learned (it took fewer examples for the students to reach the mastery criterion). Regardless of the order of the classes, the learners required more than four times the number of trials to master the first class than they required for the last class. Some of the classes required more trials for all the learners, but when a "harder" class was in the third or fourth position, it required only about one-third of the number of trials that the students' first class required.

The reason is simple. The kids had to master the structural relationships when they learned the first class or they wouldn't be allowed to go on to the next class. The same structure applies to all the classes, so the learner is required to learn less on the later classes and must simply apply what was learned about the structure of the first class or the second class. (The second class tended not to show very much savings in trials over the first class, but the third and particularly the fourth classes did.)

This same trend occurs for any unfamiliar content. In the book *Theory of Instruction* (Engelmann and Carnine, 1991), we cite several experiments that confirm the relationship. The most striking is the performance of kids who learned to hear words through tactual vibration (p. 357). It took hundreds of trials for them to learn the first few words. After they had mastered 30 or more words, they could learn new words in only a few trials. At the end of the experiment some subjects were learning new words on the first or second trial. Why? Same reason as above. They had mastered the discriminations and the

structure needed to identify words reliably.

Another one was the analysis of high-IQ versus low-IQ Follow Through kids in learning reading and math. It shows that the kids start in different places, but if the program starts where the kid can achieve mastery, the rate of progress is similar for all IQ ranges. (This is partly an artifact of our procedures. We did not accelerate the higher performers as much as we could have if our procedures had been different.)

## Prior Instruction Can Make a Difference

As a practical matter, differences in "time to mastery" persist. However, as a theoretical matter we can still make the case that differences between learning rates could be eliminated by prior instruction.

First of all, the examples of new instances of similarly structured knowledge being "easier to learn" than initial instances cut across the IQ spectrum. Regardless of intelligence, everyone, for example, learns a third

new email platform much more quickly and easily than the first one. One learns something about how email programs are structured and learns to look for similar functions and features of the second and third programs much more quickly. And the more thoroughly the first program is mastered, the easier it will be to learn the third program—without regard to intelligence.

The benefit of prior learning within a class of knowledge, then, is undeniable. It is especially potent when one is learning a very similar kind of knowledge that involves many of the same discriminations and the same organization as a prior piece of information—as in the examples of classes of objects like vehicles, furniture, and animals mentioned earlier.

It is important to point out that failure to have learned the prerequisite skills to mastery will pose a huge stumbling block for further learning. What portion of the difficulty learning (or extra "time to mastery") that a typical low-performing student experiences is attributable to lack of mastery on pre-

requisite skills and what portion will remain even if the student has learned all prior concepts to mastery? The answer to that question depends upon the depth and sophistication of one's analysis of "prerequisite skills."

## Profound Differences in Exposure

One of DI's important (and radical) understandings about low-performing students is that at preschool level their deficits in vocabulary exposure, world knowledge exposure, and language exposure already set the stage for their "difficulty" in learning. Those are problems that can be fixed by instruction.

Hart and Riesly's study (1995) shows that the differences in language and vocabulary experience and "exposure to" vocabulary are profound,•starting from the very earliest stage of life. The authors also point out that, cognitively, experience is sequential. Experiences occurring during the first three years of life establish habits of seeking, noticing, and incorporating new and

more complex experiences, as well as schemas for categorizing and thinking about experiences. Once children become independent and are able to communicate, they gain access to more opportunities for experience. The amount and diversity of children's past experience influence which new opportunities for experience they notice and choose.

Their study shows clearly that by the time a child enters kindergarten, the time portion of "time to mastery" (e.g., opportunities to learn vocabulary or "exposure to" new vocabulary items/concepts and/or language structures) of the knowledge and skills needed for success in school is dramatically tilted in favor of the students who come from homes with more highly educated parents. Because so much of schooling is language based, one would have to say that when it comes to the most important prerequisite skills for school, the educationally advantaged have received and continue to receive a huge amount more "instructional time" from their home

environments. Therefore the fact that "low performers" need more instructional time to learn many concepts is merely an artifact of their not having had the opportunity or time to learn the underlying, prerequisite language concepts to mastery.

If you are dealing with a complex skill like reading, you would need a level playing field before you could make comparisons about a single variable. Until one has provided enough instruction to make up for that 30 million-word gap, you don't have a level playing field.

If one provides maximum acceleration for both higher and low performers, one can bet that the high kids will progress at more than two times the rate of lower performers. Even within sites that fully implement DI, we cannot achieve maximum acceleration, and we tilt the playing field a little so we can do a good job with the lower performers, which means making sure that they receive a higher percentage of individual turns than the higher

performers. We bring them to a higher criterion of mastery before moving on in the program.

## Reason Behind Criterion Difference

The reason for criterion difference is based on a difference between the knowledge kids have about learning the different levels. Consider these facts:

- If you bring higher performers to about 70% correct on mastery, they will virtually always be at a higher percentage of mastery at the beginning of the next lesson.

- If you do the same thing with quite low performers, they will almost always be at a lower level of mastery at the beginning of the next lesson.

These facts provide evidence of the most basic difference between the groups. The higher performers are familiar enough with the content that they are able to retain key parts of it, rehearse it covertly, and learn. Lower performers can't do this because both the content *and* the process of learning from adults are far less practiced. So from the start, the game is different because the teacher must follow different procedures for the students. The lower performers are necessarily taught differently if they are to achieve mastery. Specifically, more trials are required for the lower performers.

The projections for performance that we make when working with naïve kids in kindergarten and Grade 1 are basically as follows:

- Top groups: more than one lesson completed (at sufficient mastery) per day.

- Middle groups: one lesson per day.

- Low groups: two-thirds to three-fourths of a lesson per day.

Another reason the playing field is distorted and remains distorted is that higher-performing kids come in with boatloads more language, including peripheral detail that penalizes lower performers. The list of differences is staggering, but here's just one link

that makes a big difference: Higher performers either have rhyming and alliteration skills or they could learn them through a simple presentation that takes no more than a minute or two. They have played silly word games and have learned slogans, and possibly rhymes, at home, so the correlation between sounds and systematic orthographic variations is very easy for them to pick up. If one shows them a series of words like *at, fat, cat, bat,* and another series of *an, fan, can, ban,* they understand it to the point that they are able to generalize with different patterns—immediately! If one attempts the same thing with low-performing students, the students show you through their behavior that they don't understand it now, or now, or later. They need a load of practice and

a very systematic expansion of the range before they are able to generalize. They can't generalize earlier because they don't have the information the higher performers have. The same thing holds for oral "blending." If you show higher performers, with a couple of examples, that you can say a word slowly and say it fast, they are able to generalize to new examples. Lower performers lack the background information and, again, can't do it; they require another systematic boatload of trials.

All of these trial phenomena work just like the first example we told you about earlier. If one taught something like three-sound words in the CVC arrangement (pig, leg, etc.) the number of trials to criterion for the first

example or series would be 10 times the number of trials to criterion for later examples.

You can give these kids a higher percentage of successful trials by arranging the introduction of examples so they start with types that are not greatly useful for beginning reading, but that students can probably do—verbally presented familiar, long words that are divided into two parts: *motor cycle, ham burger.* Then over time, systematically work down to shorter words with more parts. Note: The hardest verbal examples for these kids are words that are easiest to decode, like *am*, *if*, *it*, and *so.*

## Unlevel Playing Field in Reading Comprehension

The playing field is greatly biased for lower-performing kids because the underpinning skills are unfamiliar. For higher performers, the skills are familiar (even the more difficult skills are just a simple explanation or two from being learned).

After the groups have mastered the first two levels of the program, the playing field has leveled out a lot on decoding in a careful, systematic reading sequence. However, there are still enormous differences in comprehension skills. And these are not simply limited to words but schema, and related phenomena.

For example: Kids enter the third level of the program where we start moving away from Mickey Mouse vocabulary and tightly controlled syntax (which the lower performers are able to understand) to a more adult and "literary" language. This means that what the teacher assumes is a simple sentence may be highly unfamiliar to some lower performers. "When the sun sets, they take down the flag." If tested, a lot of low performers would show they have a vague image of what is happening. Some may not know that a flag "goes up and down." (The flag they see every day just hangs where it is.) They may not know what it means for the sun to set. They may not be clear on the relationship between the protasis and apodosis of this sentence:

when condition X, then condition Y. These deficiencies would be clearly revealed through a series of questions. For example, the teacher shows a picture of a kid standing with the sun shown in various positions above him and points to the sun at the horizon. "This is where you see the sun in the morning," the teacher says. "Show me where you see the sun when it sets. … Show me where you see the sun when you eat lunch. … Show me where the sun is at sunrise. … Listen: Show me where the sun is when they take the flag down."

> *The playing field is greatly biased for lower-performing kids because the underpinning skills are unfamiliar. For higher performers, the skills are familiar (even the more difficult skills are just a simple explanation or two from being learned).*

Surprise, they miss a lot of items.

The obverse of this problem has to do with interpreting pictures. A concrete example: In the third level of our reading program, an illustration shows a ship listing severely, with the deck toward the viewer and two characters hanging onto a rail on the high side. Boxes and crates are on the deck. The text tells about boxes and crates "sliding across the deck and falling into the water." When the teacher asks students immediate-inference questions based on the sentence, the teacher receives verbal answers, repeating phrases from the text verbatim, that hide the students' lack of understanding. "What are the two things the boxes and crates do? ... What do they do first? … What do they do next? ..."

But then the teacher tells a low performer, "Touch box A in the picture. … That box will slide across the deck

and fall into the water. Show me with your finger where it will go."

What percentage of low performers will show the correct route? About zero percent. They will show it going toward the stern, the prow, going in a snake route, and even going off the high side.

So does reading that story convey the same information it conveys to a higher performer? No. Does it convey information that is in the same standard deviation? Probably not. To provide lower performers with the same information that the higher performers extract, the teacher would have to devote at least two times the amount of detail and testing that would be required by the higher performers to come away with the same amount of information.

At this point, the formula gets really sloppy and contaminated because of realistic time requirements. It becomes impossible to bring lower performers to mastery on everything. It also becomes impractical because not all lower performers will lack the same set of missing information. The program and teacher are able to address some of the deficits that would be shared by virtually all the lower performers, but for the rest of the deficits, the kids are on their own. This means that the field will tend to remain unlevel with respect to total information.

The good news is that if the teacher has a systematic program that addresses the content that is central to the program, the lower performers are now able to learn new things as fast from a structured presentation as higher performers. It is very important to note, however, that *with sloppy teacher presentations, there will be a strong tilt in favor of the higher performers.*

DI has evidence that the differences can be eliminated in narrow areas in which the language differences and the familiarity with the structure of the knowledge are made to be equal. This data proves that the mastery learning idea, that instruction can increase the rate of learning, is correct

even though the simple answer is: No, lower performers probably will not catch up on something like reading. Educationally disadvantaged children need realistic affirmative action to ensure that the playing field is not so slanted that the amount they have to learn is unrealistic.

The overall formula for relating performance of higher and lower performers is simple: The sum of the kids' performance is highly correlated to the sum of the input, and the sources of total input are greatly different for the lower performer and the educationally advantaged performer. About 80% of what the lower performer needs must come from school, or the kid will not receive it. In contrast, the educationally advantaged student receives a far richer supply of academically related information outside the school.

The task of providing the instruction necessary to make up for the vast differences in knowledge and vocabulary with which children enter the school system seems perhaps too large to make this a practical reality. It is important, however, to keep an orientation that says that all the problems are instructional and solvable, rather than orientation that accepts the outcome of slow learning as being the inevitable course based on the individual student's characteristics—irrespective of instruction. ADI

## References

Engelmann, S., & Carnine, D. (1991) *Theory of instruction: principles and applications (Rev.)* Eugene, OR: ADI Press.

Hart, B., & Risley, T.R. (1995) *Meaningful differences in the everyday experience of young American children.* Baltimore: Brookes Publishing.

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# Martin's Musings

## *Well-designed Materials and Instruction*

Why do schools so often use materials that are not merely ineffective, but are horrifyingly bad? Almost laughable? Sometimes a beginning reading curriculum will have so many activities on each page, so many pictures of clowns and bunnies, and so much distracting blather in the margins ("Here's what the experts say…"), that teachers are stunned ("What the…!!"), confused ("How can you teach all this?!"), and prone to seizures.

Other materials are so badly designed that students will learn only via miracles. I've seen math lessons in which only one example was given (for adding like fractions) and it was the wrong example (the example was for subtracting like factions), and the text mistakenly called the addition procedure a "concept." The teacher would have to work for an hour fixing this lesson—and for years fixing them all.

Likewise, if you visit classrooms, you often see teachers not focusing on any clear objective ("What *is* she talking about?"), not correcting errors, not firming weak knowledge, not moving at a brisk pace ("Let's *go*. Move it!!"), not making sure students really "got"

what the teacher was communicating (which may not have been worth learning, anyway) and not generalizing knowledge to new examples.

It's no wonder so many students fall behind and never catch up. It's no wonder that so many students leave school and quickly forget almost everything but the combination to their locker.

How does this happen? The main reason is that teachers don't know what a well-designed curriculum looks like and what well-delivered instruction sounds like. Ed schools do not teach these things—except superficially ("Make sure to have objectives. Okay, next topic.") and with little connection to real life ("Your curriculum should be seamless and inviting. It should celebrate the contributions of diverse cultures."). What does that even mean? What are students supposed to do? No one knows.

The checklist below will help teachers to more precisely examine curriculum materials and instruction—to identify strengths and weaknesses, and to suggest improvements. It can also be used

as part of professional development and supervision. Links are provided to materials that elaborate on each item.

As you read through each item, think to yourself: strengths, weaknesses, improve how? These are the ultimate measures for evaluating materials.

## *Checklist for Evaluating and Improving Curriculum Materials and Instruction*

### Curriculum Materials

1. Materials, especially programs, (1) are *consistent with scientific research on instruction* (this is called "research based") and (2) have been *field tested* and shown to be effective with scientific research (this is called "evaluation research." Level 3—large field studies—is preferred).

Are claims of effectiveness based on empirical research or on a sales pitch?

Is there any research on the materials? What level(s)? Level 1 (small pilot studies; few controls to strengthen validity)? Level 2 (experiments with controls, but limited settings, such as classrooms)? Level 3 (large field studies, experimental designs)?

Is the research ("research base") generally adequately designed so that credible conclusions can be drawn?

Some resources on scientific research:

- Kozloff, M. *Research vocabulary.* Available at http://people.uncw. edu/ kozloffm/vocabulary.doc.

- Kozloff, M. *Three levels of research.* Available at http://people.uncw. edu/ kozloffm/threelevelsof research.doc.

- Kozloff, M., and Madigan, K. *Telling the difference between baloney and serious claims.* Available at http://people. uncw.edu/ kozloffm/Telling the Difference Between Baloney and Serious Claims.doc.

- Kozloff, M. *Assessing the quality of research plans and publications.* Available at http://people.uncw.edu/ kozloffm/Assessing the Quality of Research Plans and Publications.ppt.

Some resources on "research-based instruction":

- Cotton, K. *Effective school practices: A research synthesis.* 1995 update. Available at http://www.nwrel.org/ scpd/ esp/ esp95.html.

- Kozloff, M.A. *Sufficient scaffolding, organizing and activating knowledge, and sustaining high engaged time.* Available at http://www.uncwil. edu/people/kozloffm/scaffolding. pdf.

- Rosenshine, B. *Advances in research on instruction.* Available at http://epaa.asu.edu/barak/ barak.html.

- Rosenshine, B. *The case for explicit, teacher-led, cognitive strategy instruction.* Available at http://epaa.asu. edu/barak/barak1.html.

- Ellis, E.S., & Worthington, L.A. *Research synthesis on effective teaching principles and the design of quality tools for educators.* Available at http://idea.uoregon.edu/~ncite/ documents/techrep/tech05.pdf.

- Anderson, J.R., Reder, L.M., & Simon, H.A. *Applications and misapplications of cognitive psychology to mathematics education.* Available at http://act.psy.cmu.edu/personal/ja/ misapplied.html.

- Dixon, R. *Review of high quality experimental mathematics research.* Available at http://idea.uoregon. edu/~ncite/documents/math/ math.html.

- *Effective School Practices,* issue devoted to Project Follow Through. Available at http:// darkwing.uoregon.edu/~adiep/ft/ 151toc.htm.

Some resources on research-based instruction about reading:

- Kozloff, M., & Gill, D. *Introduction to Reading First.* Available at http:// people.uncw.edu/kozloffm/ Introduction to Reading First.ppt.

- *Big ideas in beginning reading.* Identification of the big five reading skills; research reviews; methods of instruction.•Available at http://reading.uoregon.edu.

- Armbruster, B. B., Lehr, F., & Osborn, J. *Put reading first: The research building blocks for teaching children to read, kindergarten through grade 3.* Available at http://www. nifl.gov/partnershipforreading/publications/reading_first1.html.

- National Institute of Child Health and Human Development, assorted publications. Available at http://www.nichd.nih.gov/ publications/pubskey.cfm?from= reading.

- National Institute for Literacy. The Partnership for Reading. Large literature reviews and position papers. Available at http:// www.nifl.gov/partnershipfor reading.

- American Federation of Teachers. *Teaching reading* is *rocket science.* (Must read!!! What teachers need to know.) Available at http://

# *Everyone likes getting mail…*

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

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

To: majordomo@lists.uoregon.edu

In the message portion of the email simply type:

subscribe di

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

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

To: di@lists.uoregon.edu

Subject: *Whatever describes your topic.*

Message: *Whatever you want to say.*

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

www.aft.org/pubs-reports/downloads/teachers/rocketsci.pdf.

Some resources on evaluation research:

- Go to publishers' websites and look for research on products. Also, use Google and JSTOR.

- SRA/McGraw-Hill materials. Available at http://www.sraonline.com.

- Sopris West materials. Available at http://store.cambiumlearning.com/research.aspx.

- Curriculum Associates materials. Available at http://www.curriculumassociates.com.

2. Curriculum materials (lesson-based programs and textbooks) should teach knowledge systems, such as math, beginning reading, biology, and history.

    You should not use materials that teach faddish, invalidated, or fashionable "methods," such a multiple intelligence, learning styles, and brain-based instruction.

3. Well-designed materials provide a comprehensive and varied sample of knowledge (e.g., equations to solve, poems to analyze, words to decode).

    Note: You are supposed to "align" instruction with your state's standard course of study. But who says that it is adequate? You have to rely on research and expert opinion.

    See state standard courses of study, such as http://www.dpi.state.nc.us/curriculum/, and read more about curriculum standards in Kozloff, M. *Designing Instruction Curriculum Standards*, available at http://people.uncw.edu/kozloffm/designing instructioncurriculum standards.doc.

    See expert opinions on different subjects or knowledge systems in these resources:

- Finn Jr., C. E., Julian, L., & Petrilli, M. J. *The state of state standards, 2006*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=358&id=

- Mead, W. R., Finn Jr., C. E., & Davis Jr., M. A. *The state of world history standards*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=356&id=.

- Stotsky, S. *The stealth curriculum: Manipulating America's history teachers*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=331.

*Curriculum materials (lesson-based programs and textbooks) should teach knowledge systems, such as math, beginning reading, biology, and history. You should not use materials that teach faddish, invalidated, or fashionable "methods."*

- Ravitch, D. *A consumer's guide to high school history textbooks*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=329.

- Klein, D., Braams, B. J., Parker, T., Quirk, W., Schmid, W., Wilson, W. S., et al. *The state of state math standards*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=338.

- *Mathematically correct*. Available at http://www.mathematicallycorrect.com.

- Stotsky, S., & Finn J., C. E. *The state of state English standards 2005*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=337.

- Gross, P., Goodenough, U., Lerner, L. S., Haack, S., Schwartz, M., Schwartz, R., et al. *The state of state science standards 2005*. Available at http://www.edexcellence.net/detail/news.cfm?news_id=352.

4. Well-designed curriculum materials have scope and sequence charts (or at least subject matter outlines) showing how knowledge is organized—what is covered, and when.

    For information about language arts, see The New Century Integrated Instructional System, available at http://www.ncecorp.com/scopeandsequenceread.htm.

5. In well-designed materials, lessons, units (sequences of lessons), or textbook chapters are built *consistently* from knowledge items selected from important strands (groups of knowledge). For example, each lesson or unit includes new vocabulary, big ideas, and important facts.

6. Well-designed materials, lessons, units (sequences of lessons), or textbook chapters *state* and *focus instruction on specific objectives*—what students will *do*. See Kozloff, M., *Designing Instruction Instructional Objectives*. Available at http://people.uncw.edu/kozloffm/designing instruction instructional objectives.doc.

7. Well-designed materials teach knowledge items in a logical sequence. They:

    a. Teach elements or parts (necessary *pre-skills* and background knowledge) *before* teaching new material that requires skill with the parts.

    b. Teach pre-skills and background knowledge early enough and continually, so that students are firm.

    c. Teach what is *more general* and *more frequent* before what is irregular or uncommon.

    d. Separate instruction on similar and confusing knowledge items.

    e. Teach what is *more useful* before what is less useful.

    Begin with *terminal objectives* and work backwards. Are pre-skills taught and reviewed before the

current task that requires the pre-skills?

Do a *skills trace*. Pick a skill or strand (e.g., letter-sound correspondence). Are examples taught in a logical sequence?

See Kozloff, M. D*esigning instruction task analysis, or finding out exactly what you must teach*. Available at http://people.uncw.edu/kozloffm/Designing instruction task analysis.doc.

8. Well-designed materials, *lessons* (math, writing, spelling, reading, or foreign language programs), or *chapters* (history or science textbooks) are a series of smaller, *knowledge-rich units* (chunks), such as tasks, exercises, or paragraphs. (No filler and politically correct baloney.)

   Each chunk serves a *clear instructional function*. Ask, "What is *this* section supposed to do?" It should:

   a. Teach something new (such as facts, concepts, rules, procedures, explanations, or theories).

   b. Summarize.

   c. Build fluency.

   d. Review and probe/test (retention).

   e. Expand—add more to existing facts, examples, or concepts.

   f. Generalize knowledge to new examples.

   g. Strategically integrate—combine information into a larger whole, such as an explanatory essay, or a research project.

9. Well-designed materials (either lesson-based programs or textbooks) teach new knowledge (phase of acquisition) in a systematic and explicit (focused) way. They:

   a. Review and firm *prior* knowledge.

   b. Gain students' attention, frame new tasks, model, lead, test/check, verify, correct errors,

offer more examples, and include a delayed acquisition test. (Procedures appropriate for each form of knowledge [fact, list, sensory concept, higher-order concept, rule, routine] are used.) See Kozloff, M., *Procedures for teaching the four forms of knowledge*, available at http://people.uncw.edu/kozloffm/procedures.doc.

   c. Review and firm new knowledge.

> *Well-designed curriculum materials provide scaffolding. That is, they offer various kinds of assistance to help teachers communicate information and to help students acquire, organize, retrieve, and apply information/ knowledge.*

10. Well-designed curriculum materials adequately cover (teach, assess) all phases of mastery: acquisition (see No. 9), fluency, generalization, and retention.

    For each phase, there are stated objectives, instructional procedures, assessments of progress, and suggested remediation (if too little progress) based on assessment data.

    See Kozloff, M. *Designing instruction phases of mastery*. Available at http://people.uncw.edu/kozloffm/Designing%20Instruction%20phases%20of%20mastery.doc.

11. Well-designed curriculum materials provide *scaffolding*. That is, they offer various kinds of assistance to help teachers communicate information and to help students acquire, organize, retrieve, and apply information/knowledge.

Examples are stated objectives, big ideas, advance organizers (lesson and unit outlines, guided notes, concept/ proposition maps), summaries, glossaries, and wait (or think) time. For resources, see:

- Kozloff, M. *Organizing instruction around big ideas.* Available at http://people.uncw.edu/kozloffm/Curriculum%20%20%20Big%20Ideas.doc.

- Kozloff, M. *How to use these documents.* Available at http://people.uncw.edu/kozloffm/How to Use These Documents.htm.

## Instruction

1. Students are prepared for new material being taught. They are firm on the pre-skill elements and/or background knowledge.

2. Instruction is designed on the basis of objectives and focuses precisely on objectives.

3. Instruction begins with review, especially elements and background knowledge relevant to the current instruction. The teacher corrects errors and firms knowledge or re-teaches before introducing new material that requires this background knowledge.

4. The teacher gains student readiness: attention, sitting properly, materials handy.

5. The teacher frames the instruction by stating the kind of new knowledge to be taught, the objectives, and the big ideas that will help students organize, remember or access, and comprehend the new knowledge and connect new with prior knowledge.

6. The teacher models or presents new information clearly and focuses on the objectives. The teacher (a) shares his or her thought processes ("explicit instruction"), (b) uses clear wording, (c) repeats the information as needed, and (d) presents one step or item at a time in a verbal chain or a cognitive routine, depending on how many steps or items students can handle.

7. The teacher leads students through the application of the new information.

8. The teacher gives an immediate acquisition test/check to determine whether students learned the new information. The teacher tests/checks every time new information is presented to be sure that the students learned it. This is especially important when teaching diverse learners, essential material, and difficult material.

9. The teacher corrects all errors and/or firms weak knowledge by:

   - Presenting it in a matter-of-fact way and directing it to the group.

   - Modeling. The teacher immediately gives the answer or demonstrates the step.

   - Leading. Students say the answer or do the step with the teacher.

   - Testing/checking. The teacher asks the question or gives the problem step again.

   - Verifying. Use specific praise.

   - Retesting or starting over.

   - Delaying testing. The teacher comes back and checks again.

10. If new material is a concept, rule-relationship, or cognitive routine, the teacher:

    - Uses a wide and varied range of examples.

    - Juxtaposes examples to reveal sameness.

    - Juxtaposes examples and nonexamples to reveal difference.

11. The teacher gives a delayed acquisition test (calling on both the group as a whole and then individual students) to determine whether students learned the concept, rule relationship, or cognitive routine from the examples and nonexamples, or whether students remember the set of facts presented.

12. The teacher reviews the instruction (e.g., main things taught) and states how what was taught is relevant to next lessons. The review:

    - States what was learned, how it built on what came before, and how it will be built on by next lessons.

    - Has students once more reveal essential knowledge.

13. The teacher uses information from the delayed acquisition test to determine whether students have sufficiently mastered the new material and can advance to the next step of instruction, or whether re-teaching or more intensive instruction for some students is needed.

14. The teacher teaches at a brisk pace by speaking more quickly, staying on task, using words whose meanings are clear, using the same instructional vocabulary from one task to another, and cutting out unnecessary words.

15. The teacher gives frequent opportunities for group (choral) and individual responses to test/check learning by:

## DI-ANNOUNCE Electronic List

An electronic list is now available: DI-ANNOUNCE. As its name indicates, DI-ANNOUNCE is an electronic list for announcements on resources for those studying or implementing Direct Instruction. List topics include the following:

- research articles, news articles, and other publications on DI;

- updates on DI implementations;

- meetings, conferences, and workshops on DI;

- authors' remedies for specific exercises in the DI programs that have been identified as being difficult for children;

- new DI products and resources;

- grant opportunities or awards for DI research or implementation;

- job opportunities for DI researchers or practitioners;

- sources of data on student performance for analysis or distribution.

Note that DI-ANNOUNCE postings are limited to ANNOUNCE-MENTS. The list is NOT a discussion list, and it is moderated. Any replies, jokes, or other off-task messages will be rejected. There is an on-line, web-based archive of postings for later reference and retrieval. In this way, the list is designed to be a streamlined tool for communicating information on the most critical developments in the field of Direct Instruction.

To subscribe, send a message to join-DI-ANNOUNCE@lyris.nifdi.org.

You will then receive a "welcome" message with additional information about the list. You can also go to http://lyris.nifdi.org/ to see an archive of past announcements sent to the list, including the "welcome" message.

The list launched last October. You are invited to join the list and send announcements as appropriate. Feel free to call Kurt Engelmann at the National Institute for Direct Instruction (NIFDI) via 877.485.1973 toll-free or email kurt@nifdi.org if you have any questions about the list.

- Asking the question first, and then calling on the group or an individual.

- Allowing think time before calling on the group or an individual.

- Calling on the group as a whole after presenting new information.

- Calling on individual students after calling on the group, then making sure to call on students who have made errors or who in general have a harder time learning.

16. The teacher uses pre-corrections, or reminders, to prevent errors. For example, "When we see an x between two numbers or parentheses, we multiply. What do we do when we see an x between two numbers or parentheses? *Multiply.* Yes, multiply."

17. The teacher uses a questioning technique such as Socratic dialogue as an instructional/communication procedure by:

- Asking questions that probe students' knowledge.

- Asking questions that require students to use rules of reasoning.

- Helping students revise their knowledge.

18. When students are firm on new knowledge (acquisition phase), the teacher works on generalization of knowledge to new examples, fluency, and retention of knowledge.

## Features of a Productive Classroom Environment

19. The teacher increases time available for teaching and time engaged in teaching. The teacher should:

- Decrease noninstruction activities.

- Use activities for which students are prepared.

- Make certain subjects sacred.

- Use lesson-based materials.

- Use routines for distributing materials.

- Teach and practice getting ready for learning.

20. If possible, the teacher teaches in small, homogeneous groups. The teacher:

- Gives pre-tests or placement tests to place students in groups with other students at the same level or spot in a program.

- Keeps the group small—say six to eight students—during beginning instruction,

- Allows groups of students from different classes and grade levels (at most two grade levels, as a rule).

- Notes students' progress. Move students who are making

quicker progress to groups with similar students.

21. The teacher uses different kinds of instructional groupings properly, including whole class instruction; small, homogeneous groups; small, heterogeneous groups; and paired peer groups.

22. The teacher establishes a learning community with:

- A shared group mission.

- Shared group rules.

- Shared high expectations.

- Reinforcement for individual and group achievement.

- Students sitting near and facing the teacher.

- Frequent opportunities to respond (choral, group, and individual).

- Ensured mastery of every task.

- Celebrated progress. *ADI*