Direct Instruction news
ADI Effective School Practices
SARA G. TARVER, Editor, University of Wisconsin, Madison

Much Ado About Testing: But the Real Story Is About Instruction

This issue of *Direct Instruction News* begins with Bob Dixon's on-the-mark satire on state testing. He destroys the myth that state tests are divinely inspired by laying bare the fallacies in the test construction process itself. A process that begins with the creation of state standards (which, in most cases, defy measurement of any kind) by "democratic" committees under the influence of education professors (who, in nearly all cases, know nothing of or have little respect for the technical qualities of tests), and ends with worthless tests that can destroy rather than facilitate the accountability movement.

Thank goodness, Bob goes on to point out, that there are some technically sound standardized tests and that criterion-referenced tests, *if* technically sound, can provide more direct ways of evaluating instruction. His advocacy of technically sound tests that can promote true accountability should not be confused with some currently popular anti-testing views.

As the reader will see when reading George Clowes' interview with Zig, Zig's views on testing complement Bob's. In his usual succinct style, Zig tells how real performance testing (please don't confuse this with what is commonly being touted as *performance testing*) is inherent in effective instruction. He starts by stating, "If you want to know what you taught, you have to look at what the children learned." Then he adds ". . . you would not wait to test the children. You would design the instruction so that you were testing them all the time." He then goes on to explain how the *test* part of the Model-Lead-Test instructional paradigm ensures that the teacher gets feedback about what the children have or have not learned.

Like Bob, Zig does not take an anti-standardized testing stance. Instead, he suggests that we obtain performance measures by randomly testing one out of five students (say, on the reading of passages aloud) and then comparing their performance to their achievement test scores. In other words, we need measures of performance on routine academic tasks AND measures of achievement on standardized tests. Most importantly, both types of measures must be valid, reliable, and sensible.

Zig's interview provides other jewels of wisdom also. The following question is one that I have been asked often and Zig's response to it is right-on. It bears repeating here:

> **Clowes:** So Project Follow Through confirmed what you had already found about the ineffectiveness of those other programs. Yet those programs still are being promoted in teacher colleges and they still are widely used, while Direct Instruction is not. Why?
>
> **Zig:** The answer is really simple, but it's very difficult for most people to accept: Outcomes have never been a priority in public education, from its inception. That's the way the public education system is. The system is more concerned with the experience of the child: "Let the child explore," "Let the child be his or her self," "Don't interfere with the natural learning process," and so on.

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If outcomes are a priority, as they should be, it follows that we must evaluate student outcomes. Some form of testing is required to do that. To test OR not to test debates must be reframed as discussions of the right kinds of tests.

One thing that bothers me about the testing debates is this: advocates of testing often go so far as to say, or at least to leave the impression, that testing itself *produces* learning. The fact is that testing can only tell us that the child has or has not learned what the teacher thought he/she had taught. *Instruction* that occurs before the test is the critical element in learning. The *test* part of the Model-Lead-Test paradigm employed in Direct Instruction is meaningless without the *model* and *lead* parts that come before the test. If, and only if, the instructional elements of the *model* and *lead* parts are intact will the *test* show that students have acquired the intended information and understanding. In the same fashion, even the most technically sound achievement tests will not show increased achievement unless the instruction that preceded the testing is equally sound.

And, as members of ADI know, delivering effective instruction is not easy. Jessica Thompson identified the two basic essentials of effective instruction in a paper for which she was awarded the 2001 Susie Wayne Scholarship (included in this issue): a well-designed curriculum and a highly-skilled teacher. To acquire an understanding of the design principles that undergird DI curricula and expertise in techniques of delivering those curricula, teachers must devote a lot of time and effort to study and training. And beyond these basic essentials is a world of know-how about DI implementations. Jerry Silbert captures much of this know-how as a dozen suggestions in his article on how to make DI implementations produce more student learning. Each of his suggestions—from more emphasis on reading in kindergarten and prekindergarten, to more instructional time, to more in-class coaching, to more supplementary reading, and on and on—is excellent. Don't fail to read this article and benefit from Jerry's extensive experience in helping schools to be more successful.

The rest of the articles in this issue tell of remarkable success with DI. A report of a six-year study (Kramer et al.) with deaf and hard-of-hearing students documents great gains in reading comprehension, spelling, and total language. A report from the Arkansas School for the Blind (*Counterpoint* reprint) tells of success with students who are blind or visually impaired.

Amy Griffin's write-up of 2001 ADI awards tells the stories of how DI helped Amanda Bhirdo, Donte Brooks, Daniel Cahill, Natanael Lozado, Hadley Quintard, and Tony Tran to make large academic gains despite disabilities or other obstacles—reading disability, developmental delay, infantile autism, dyslexia/learning disability, asthma and allergies, English as a second language. Stories of three schools that received Excellent School awards (City Springs and Hampstead Hill in Baltimore and Rio Altura Elementary in Riverbank, California) and eight teachers or instructional leaders who received Excellence in Education awards (Rick Fletcher, Kim Newton, Shelby Saulsbury, Jane Green, Diane Hill, Susan Hornor, Stacey Herrmann, and Bernice Whelchel) are also included in Amy's report of the 2001 awards.

One of the most impressive stories of success with DI is that of City Springs Elementary in Baltimore under the leadership of Principal Bernice Whelchel. Bernice delivered the keynote address to the 2001 ADI Conference and received an Excellence in Education award. In the Fall of 2000, her work was featured in a PBS documentary titled *The Battle of City Springs*. If you haven't yet seen it, get it and watch it. The story of how she led in the City Springs transformation from one of the lowest performing schools in Baltimore to one of the highest is a truly amazing story. Talk about dedication, commitment, and all-around savvy. Bernice has it and she's not through yet! She is an ideal role model for principals and other educators.

Congratulations to Bernice and all of the 2001 awards recipients. I hope that ADI members are already thinking about persons and schools to nominate for 2002 awards.

In the meantime, I hope you're off to a great start of the 2001–2002 school year.

Member News

Member Chuck Arthur, retired teacher from Reynolds School District in Oregon, reports he will be opening a public charter school in the David Douglas School District near Portland in the fall of 2002.

The Arthur Academy will teach accelerated reading and math using Direct Instruction curricula.

Congratulations, Chuck! We look forward to hearing great things about your school in the future.

Your State Test Was Not Divinely Inspired

And that's *almost* all I have to say on the subject, but not quite. Your state education department (or whatever equivalent you have) often seems to want you to think that your own test was divinely inspired, or close to it. But it wasn't. Not even close. The darned newspapers in your state often seem to operate on the assumption that the state tests were divinely inspired. Most newspapers will eagerly advertise their ignorance in print, pointing out how local schools have gone up on this and down on that, and how one community compares with others.

Although I don't really *know* the exact (or vague) history of your particular state test, I'm not reluctant to take a wild guess, nonetheless. Your legislature mandated by law that your state department—or whatever—create a statewide test (and standards, too), as a component of accountability. Your state department wasn't real thrilled to have this (or much of anything else) forced upon them, but it had to do *something*. So it gathered together a few people from the education departments around the state, some teachers, and a bunch of hapless citizens, then swore them all to secrecy, and pressed them to come up with standards and tests.

The citizens were there for show—and the teachers, too, for the most part. The education professors pontificated on "performance assessment" and "constructing meaning" and dozens of other vague or non-existent concepts, thereby completely snowing even the smartest of the poor lay members of the committees, as well as the teachers they had "taught" themselves. To further press the notion that "the community" participated in the development of standards and tests, the state departments widely disseminated drafts and solicited feedback. (The community could make some judgments about what was there, but few thought to seriously consider what wasn't there.) The feedback went back to the committee, and the education professors ignored all they didn't like while making a few obligatory changes here and there, incorporating feedback they did like.

The standards were developed before the tests, which was completely senseless—but pretty uniform across all states. As a consequence, many standards simply couldn't be tested—not by a performance assessment, not by a legitimate assessment, not by Zeus, not by anyone or anything. Note the number of times that "lifelong love of reading" shows up in the standards of different states.

Once the standards were developed, and codified as superb because they were the result of so much democracy in action (as opposed to expertise), it was time to write tests. For this task, the state departments used—well, guess. Who they pretty uniformly didn't call upon were psychometricians—genuine scholars on testing—from psychology departments. Look at it this way. An education professor who has never taught a school child to do anything is not going to worry much about having no expertise in psychometrics. Besides, the folks at your state department don't have psychometricians for cronies. The relationship between the state department and the colleges of education is essentially incestual: they trade jobs with one another occasionally.

The resulting tests varied in quality, just as the standards did. The tests ranged from "has some potential" to "disastrous." Whichever category, your state department went to reputable test publishing companies to get their tests published. The reputable test publishing companies laughed and laughed and laughed back at meetings with psychometric experts at the home office. Then after they had completely laughed themselves out, they agreed to publish your state's worthless test *because if they didn't get the business, someone else would*. I myself am hesitant to draw an analogy with women of ill repute, even though I've heard representatives from some of those publishers do so themselves. As a practical matter, the companies were right: *someone* was going to get the lucrative business of publishing your state's test. I come down on the side of the publishers because they at least *knew* what kind of fiasco they were participating in, whereas the state departments remained clueless.

The very huge problem with most, if not all, of the state tests is that they have not been proven to be *technically sound*. Now, if I explore that topic in too great a depth, (1) you will fall asleep, and (2) I'll make a fool out of myself because I'm no psychometrician myself. (I just know that the suffix -ian—as in psychometrician—refers to people, as opposed to -ion—as in action.) Nonetheless, I'll go out on a limb just a bit by saying that if a test is not technically sound, it's completely worthless. And if there are any important *consequences* associated with a test that is not *proven* to be technically sound, then that test is far worse than worthless: it is exceptionally damaging.

By "technical soundness," I'm talking about those considerations of validity and reliability, and the varieties of each. There are technicalities involved in those things far beyond me, but just as a guy on the street, I have to assume that if a test hasn't been

proven to be reliable, then we can't rely upon the test results, and if a test hasn't been proven to be valid, then…well, it could be invalid.

I can't say that no state test is valid and reliable. But the burden of proof isn't on me: it's on the state departments, and even the legislatures who burdened them will all this to begin with.

Your run-of-the-mill norm-referenced tests—SAT 9, IOWA, CTBS, etc.—are a different matter altogether. The publishers of those tests spent a fortune establishing technical soundness to a level that would make their tests unassailable by any true, qualified psychometrician. Unfortunately, those tests aren't the most direct way to evaluate the effectiveness of instruction. Criterion-referenced state tests would be better for that *if they were technically sound*. And, the publishers of norm-referenced tests aren't completely invulnerable to pressures from the traditional education community (to whom they sell their wares). On the SAT 9 math test for the spring of fourth grade (or the fall of fifth), you'll find items talking about "number sentences," a remnant of New Math that has been resurrected in the New New Math. Go visit the mathematics department of a good university and ask a senior mathematician if "math is a language," with "sentences" and the like. Chances are fair that someone will start screaming at you, or even might just beat you up.

I suppose that all my contentions here strike you as having just about as much practical value as the other articles I've written for this column—generally, none. If your principal is on your back and her superintendent is on hers and the newspaper is on the superintendent's back and practically everyone in your state actually thinks that the Emperor has clothes on, then you're in a tough spot, and I haven't helped you out of it. I can tell you, though, that some very competent and smart and politically savvy people are working on this problem, and I strongly suspect that sooner or later, *they* will help you.

Now I'll play prognosticator and predict that either one of two things will happen with the state tests. One, the anti-accountability/anti-reform types like Alfie Kohn will destroy the accountability movement, meaning in part that poor kids in particular will keep getting the shaft the way they always have. The other possibility is that the smart activists I referred to above will prevail, and states will start developing reasonably good standards and technically sound instruments to measure them. In that case, accountability will live because it will be *legitimate*. All children, potentially, will benefit, but poor kids will benefit the most if a good accountability system forces their schools to teach them everything that everyone else gets the opportunity to learn.

Postscript. I have so many good friends who are in education departments, such as the editor of this newsletter, that I must say that to me, *good* education professors are saints, if not deities. ADI

GEORGE A. CLOWES, *School Reform News*

"If the Children Aren't Learning, We're Not Teaching"

An Interview with Siegfried E. Engelmann

One of the most vigorous continuing debates in elementary education is over which teaching method produces the best results.

Is it teacher-directed learning, where the teacher conveys knowledge to his or her students? Or is it student-directed learning, where the teacher encourages students to construct meaning from their own individual learning experiences?

Although a considerable body of research shows student-directed learning is ineffective, the debate rages on because many educators—and especially teachers of educators—choose to ignore the research.

Siegfried Engelmann has been one of the key participants in this debate over the years, and a major contributor to its resolution. He first became interested in how children acquire knowledge when he was research director for an advertising agency trying to understand more about the learning process.

Pursuing this interest, Engelmann quit the advertising business in 1964 and became senior educational specialist at the Institute for Research on Exceptional Children at the University of Illinois at Champaign-Urbana. There, his research into the effectiveness of different teaching methods in the education of under-privileged children led him to develop the Direct Instruction method of teaching.

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The Direct Instruction method involves teaching from a tightly scripted curriculum delivered via direct instruction to the class; i.e., giving children small pieces of information and immediately asking them questions based on that information. While Direct Instruction is teacher-directed instruction, it does not encompass all the possible varieties of teacher-directed instruction, including the common situation where a teacher delivers a content-rich curriculum to students but decides exactly "what" will be taught.

Engelmann's research in the 1960s into the effectiveness of different teaching methods was subsequently confirmed by the massive federal Follow Through project in the 1970s and 1980s. In 1999, the American Institute of Research looked at 24 education reform programs and concluded Direct Instruction was one of only two that had solid research vouching for its effectiveness. But despite all the research findings, Direct Instruction is used at only 150 of the nation's more than 114,000 schools.

After developing the Direct Instruction method, Engelmann became a professor of special education at the University of Oregon, in Eugene, where he established the National Institute for Direct Instruction. He recently spoke with *School Reform News* Managing Editor George Clowes.

Clowes: *What approach did you first take to understanding the mechanics of the learning process?*

Engelmann: I studied philosophy when I was in college, and I was much influenced by the British analytical approach that required very careful parceling out of what caused what, and also what kind of conclusions you could draw from what kind of premises. That had a big impact on how I viewed this process initially, particularly the notion that we are responsible for whatever children learn. We can't just take credit for what they *did* learn; we have to take credit for what they didn't learn, or mis-learned, also.

We assumed that children were logical, reasonable beings in terms of how they responded to our teaching, and that their behavior was the ultimate judge of the effectiveness of whatever went into our teaching. If the way we taught didn't induce the desired learning, we hadn't taught it. But if children learned stuff that was wrong, we were responsible for that, too, and it meant we had to revise what we were doing and try it out again. That's the formula we used from the beginning.

Just because you covered the material doesn't mean the children learned the material. That tells about what you did. It doesn't tell about what you taught. If you want to know what you taught, you have to look at what the children learned.

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Clowes: *Which means you have to test the children.*

Engelmann: It means you would not wait to test the children. You would design the instruction so that you were testing them all the time. You would design the instruction so that you received feedback on what they were learning at a very high rate. You would present instructions so that the children's responses carried implications for what they were learning. And you would design the instruction to be efficient, so that you're not working with just one child.

All of this means that, for young children, you would use procedures involving oral responses where the children can respond together, and you get information about what they're learning from their responses. That's the test.

For very simple responses, the paradigm that we use is: Model, Lead, and Test. You first show them what the task is and how they're supposed to respond to it. Then you test to see if they can respond properly. It all happens very quickly.

It's something like, "My turn: What am I doing? Standing up. Your turn: What am I doing?" It's a model and then a test. But if they can't produce the response, then you do a model and lead the test. For example, "My turn: What am I doing? Standing up. Your turn: What am I doing? 'Standing up.' Say it with me: 'Standing up.' Once more: 'Standing up.' Your turn: What am I doing?" So "your turn" is the test.

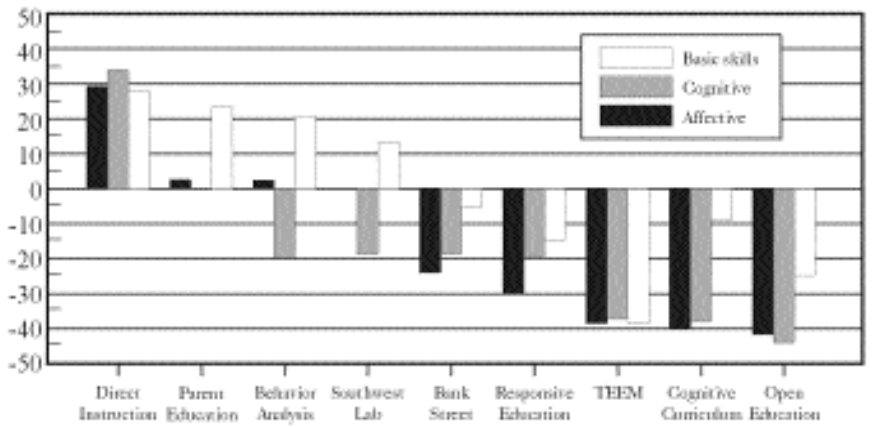
Clowes: *When did you decide to develop this into an instructional package for beginning learners?*

Engelmann: Initially, we took programs people were using or were being talked about and evaluated them according to our criterion: If the children aren't learning, we're not teaching.

For the most part, the children we were working with were disadvantaged preschoolers. They represented a particular challenge because they didn't come in with very high levels of knowledge and they didn't learn things very well. Their performance on the programs that were available led to the conclusion that these programs just didn't work—the language experience program, the sight-word

Comparison of Achievement Outcomes

Across nine Follow Through models



Basic skills models	Cognitive skills models	Affective skills models
Direct Instruction	Parent Education	Bank Street
Behavior Analysis	TEEM	Responsive Education
Southwest Lab	Cognitively oriented curriculum	Open Education

Baseline (0) represents average of the national pooled comparison group.
Source: Educational Achievement Systems — The Washington Times

approach—none of them worked. They were *horrible.*

The sight-word, or look-say, approach is particularly bad because there is no method for correcting mistakes. If a child reads a word incorrectly, what do you tell them with the sight-word approach? "Look at the unique shape of the word," or "Look at the beginning letter and ask yourself what that word could be." That's it. They're not taught that the word is a function of the arrangement of specific letters. It's like taking average people off the street and trying to teach them calculus by showing them different curves with different answers. "What's this one? .03. And this one? .05. Good." It's that stupid.

With sight-word, children develop all kinds of misconceptions about what reading really is. They think reading means looking at pictures and guessing what the words are, because that's what they've learned to do. The misconceptions are induced because the children are given highly predictable text for reading practice, which then reinforces for guessing on the basis of context. But when they're given text that's not predictable, they can't make out what the words on the paper say because they really don't know how to read.

The only programs that showed any promise were the ones based on the International Teaching Alphabet, where you taught children to read using the phonetic pronunciation. You could teach disadvantaged kids to read that way, but then you had a terrible time transitioning them out because they were absolutely unprepared to deal with the high rate of irregular pronunciations among the most common words. The reading strategies they had developed with the phonetic alphabet weren't any help to them and a great deal of re-teaching was necessary.

But what they had learned was a function of what we had taught. We were responsible for so seriously mis-teaching these children that they could not easily transition and learn the irregular side of the reading game. So that meant we had to a) introduce some version of irregulars very early, so that children get the idea not everything is perfectly regular, and b) keep the sounding-out, but treat it more as a sop for spelling the word. You don't want them to spell the word for initial reading. You want them to be able to sound out the word. But if you do it rigorously, they can easily understand that a particular sound means a particular letter.

The notion that you somehow recognize the word as a lump has been thoroughly discredited by research. When words are presented on a screen at the rate of about four or five hundred words a minute, experienced readers still can identify misspelled words. They can't do that without understanding the arrangement of letters in the word, and that each word is composed of a unique arrangement of letters. They're not looking at the shape of words.

Clowes: *When did you decide to publish your findings?*

Engelmann: When we were working with the children, our objective was to teach them reading, math, and language. We wanted to make sure we taught them well, and so we made up sequences that compensated for what was lacking in other programs.

Pretty soon we had prototype versions of the reading program, the math program, and the language program. Our rule was that we would not submit anything for publication until we were sure that if the script was followed and presented as specified, it would work. We never submitted anything for publication that was not absolutely finished.

Also, the publisher was not allowed to edit any of our material. The publisher would say, "There's a better way to phrase it." No, there isn't! We've tried different ways. This way is efficient

and it ties in with things we're going to do later on.

Another thing that happened was the federal government's Project Follow Through, which came out of President Johnson's War on Poverty and was aimed at evaluating programs that provided compensatory early education to disadvantaged children. We were one of 13 major sponsors, with the others representing the full spectrum of philosophies about instruction: developmental, Piagetian, the British open classroom, natural learning processes, and so on.

The results showed those other programs don't work in any subject. Direct Instruction beat them in all subjects. We beat them in language, in math, in science, in reading, and in spelling. And our students were the highest in self-image. And although Follow Through went only through third grade, additional follow-up showed an advantage through eighth grade and a statistically significant increase in college enrollment.

We also have some more direct information from places we worked with in Utah, where the Direct Instruction sequence goes through sixth grade. For example, when the children in Gunnison Elementary School entered junior high, they skipped seventh grade math and went directly into Algebra I, which was scheduled for eighth grade. At the end of the year, the children from our program were first, second, fourth, fifth, and sixth in performance in Algebra I.

Clowes: *So Project Follow Through confirmed what you had already found about the ineffectiveness of those other programs. Yet those programs still are being promoted in teacher colleges and they still are widely used, while Direct Instruction is not. Why?*

Engelmann: The answer is really simple, but it's very difficult for most people to accept: Outcomes have never been a priority in public education, from its inception. That's the way the public education system is. The system is more concerned with the experience of the child: "Let the child explore," "Let the child be his or her self," "Don't interfere with the natural learning process," and so on.

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The rhetoric is wonderful, but the test is: Does it work? Quite clearly, it doesn't. The ones who are victimized the most by this are children from poor families.

But anyone who does not view the child in this way is portrayed as some kind of redneck Republican with no real human concern.

Clowes: *What about Advantage Schools? I understand they're using your approach, too.*

Engelmann: They're doing some pretty good things, but I think they're probably a little light in initial training. Part of that is because they're installing a school from scratch, and so you have to teach the teachers and the administrators a lot more than you would if you were just moving into an extant school. That's a tough job. It takes months to get the routines down.

Clowes: *Do you have any recommendations for state policy makers who want to raise the quality of U.S. K–12 education?*

Engelmann: My first recommendation would be to use only data-based material; that is, material that has a track record and can demonstrate it works. My second recommendation would be to evaluate test results skeptically. Don't rely on state tests and the like to give you an indication of what's really going on. To produce quality, you have to have quality control. That means having random samples, just as you would in a business.

You would go into a school and randomly test one out of five students in randomly chosen classrooms. In reading, you would give each student a passage to read and then ask them some questions about it. You could get the information you need out of a classroom very quickly—I'd guess no more than 10 minutes. If you sampled six classrooms, that would give you a pretty good idea of what is going on in that school. Then you would compare the performance of the students you had sampled with their achievement test scores and note any discrepancies.

In many cases, you will discover great discrepancies—where the children performed well on the test and yet when sampled they can't do math or they can't read. Schools can do all kinds of things to make their scores look better than they really are, so they need to be evaluated skeptically, preferably with this quality control approach. ADI

2001 ADI Awards

The 2001 National Direct Instruction Conference marked the 27th year for the annual event held in Eugene, Oregon. The conference provides training in the use of DI programs as well as sessions geared toward experienced users of DI, administrators, researchers and behavior management specialists. The conference also provides a unique opportunity for participants, program authors, consultants and trainers to meet and interact, enhancing a sense of community among the growing number of DI practitioners. A highlight of the conference is an Awards Dinner during which excellence within the DI community is recognized. Prior to the conference a call for nominations is sent out to schools and individuals using DI and from the responses a selection committee takes on the challenging task of selecting the recipients. Awards are given for Excellence in Education, Excellent School and The Wayne Carnine Most Improved Student Award. Along with recognition by the Association, the dinner provides an opportunity for the recipients to publicly thank those who are part of their success and reinforces the importance of the mission that is shared: ensuring the success and learning of all students.

Excellence in Education

With great enthusiasm the team of Rick Fletcher and Kim Newton, from Rio Altura Elementary in Riverbank, California, was nominated and awarded with the distinction of excellence in education. Dr. Cathy Watkins of California State University, Stanislaus describes their dedication as such, "Rick and Kim approach every task involved in managing this schoolwide implementation with intelligence, enthusiasm, and just plain hard work. They are extraordinarily skilled at translating information into effective practice in the classroom. They both have well developed analytic and problem solving skills. And they have a thorough understanding of how to use assessment information to develop and guide instruction."

Rick and Kim are not only outstanding classroom teachers, they also serve as DI program coaches, trainers, and coordinators of the schoolwide implementation. Prior to the schoolwide implementation, Rick and Kim had both used DI programs in the capacity of their individual classrooms. Their knowledge of the success of students taught by these effective practices led them to approach their school with the notion of changing the curricula for the entire school. As is often the case, the idea of implementing DI schoolwide was met with opposition. Rick convinced the school staff to conduct a pilot study of eight classroom implementation groups. The data collected demonstrated significant gains in reading achievement and resulted in initiating the change to DI practices at Rio Altura.

The success of the school speaks for itself. The 1999–2000 Academic Performance Index (API) growth score was 143 points, placing them in the top ten schools showing academic growth in the state. Dr. Watkins says that Rick and Kim are, "quite simply, committed to improving the academic performance of children. They work diligently and tirelessly. I believe they are precisely the types of individuals for whom such an award is intended."

As a second year 1st grade teacher at George G. Kelson Elementary in Baltimore, Maryland, Shelby Saulsbury has immersed herself in DI. She has dedicated herself to the task of truly teaching students, participating in staff development activities, mentoring new teachers, and working as a coach and a Cadre member. She was featured in *The Baltimore Sun* for recognition in the "Reading by Nine" initiative for promoting reading excellence and was recognized by The University of Maryland for Excellence in Urban Education.

Rick Fletcher

Kim Newton

Jeanette Coleman, a Master Teacher, in a letter of support for the nomination of Shelby wrote, "I have watched Miss Saulsbury grow in her performance as a first grade teacher for the past two years. She has shown a love for students, a desire for enriching her experiences, a commitment to challenging her students, a willingness to learn and try a new innovative program and a need to stimulate the teaching and learning environment with creative and enriching experiences for her students."

From Shelby Saulsbury, "This year I received the greatest reward I could imagine. I received a class of students who were determined, eager non-readers. The majority of the students had not yet mastered the most basic pre-reading skills. These students started at *Reading Mastery I*, lesson one. These same students are now very firm readers entering *Reading Mastery III*. We have worked extremely hard this year and we are now reaping the benefits of our toil. I feel confident that their commitment to excellence and perseverance will help them to be successful in the years to come. This is my greatest joy."

Jane Green currently works with seventeen DI schools within the Baltimore City Public School system in the capacity of Instructional Specialist. She models lessons for teachers, teaches entire classes or small groups of students to demonstrate specific techniques, and conducts numerous professional development sessions for administrators and teachers. She has developed DI test awareness materials to support the administration of state and national assessments.

An anecdote by Principal Lydia Lafferty from Margaret Brown Elementary in Baltimore summarizes the thoughts of many who have worked with Mrs. Green. "When I first met Jane eight years ago, I was the rookie principal of one of the lowest performing schools in Baltimore City. Jane was a dynamic, energetic teacher with a love of learning. Our students however, were not learning. We had been named eligible for reconstitution or state takeover. Teacher turnover was high and morale was low. Standardized test scores were dismal and student behavior was spiraling out of control. The Baltimore Curriculum Project offered our school, Arundel Elementary, the opportunity to implement a total school reform model—Direct Instruction. I asked Jane to become the DI coordinator for Arundel and that's when she began to spin her magic.

"Jane immersed herself in every aspect of DI. She taught, modeled, coached and confidently expressed her commitment to the success of the program. Quickly she earned the respect of the teachers and parents. With her never-failing smile and direct manner, she transformed novice teachers into pros, naysayers into believers, and a school clouded with failure into an environment of success. Jane was an inspiration—she galvanized the faculty and channeled their energy into developing the skills to make the difference for our children. Their effective implementation of the DI program resulted in noteworthy increases in student achievement. In 1998, the Maryland State Department of Education cited Arundel Elementary for making significant gains on the Maryland State Performance Assessment Program (MSPAP). Jane Green was directly responsible for this highly sought after accolade."

"Jane immersed herself in every aspect of DI. She taught, modeled, coached and confidently expressed her commitment to the success of the program. Quickly she earned the respect of the teachers and parents. With her never-failing smile and direct manner, she transformed novice teachers into pros, naysayers into believers, and a school clouded with failure into an environment of success."

A group of Elementary Instructional Specialists with Dalton Public Schools describes Diane Hill's introduction to DI as such. "Over five years ago, as an Elementary Instructional Specialist in a low-performing school, Diane began to search for ways to boost the literacy development of her educationally deprived students. At that same time, Dalton Public Schools was experiencing a rapid influx of non-English speaking Latino students. Diane heard about Direct Instruction and visited an elementary school in Chattanooga, Tennessee that was using *Reading Mastery.* She returned invigorated and determined to use the program to make a difference in the lives of her diverse students. Through her leadership, the program that started as a single school initiative flourished into a system-wide adoption."

In 1994 Diane chose the DI language and reading curricula for her school, Morris Elementary. She organized all staff development activities, the teacher training and secured the support of outside consultants. As Paul McKinney from Educational Resources, Inc. said, "Morris Street's first year success sparked the attention of district level administrators and other schools in her district began to turn to the DI programs as well. By 1997, all eight elementary schools were using *Reading Mastery* and *Corrective Reading*." He goes on to say that, "Because of Diane's persistence, vigilance, knowledge and commitment, the Board of Education created a district wide position for her as Direct Instruction Coordinator."

"Diane's belief in and passion for DI are unequaled. She has experienced first hand how effective the curriculum can be with all students when it is implemented correctly." Those words from Ed Schaefer, also from Educational Resources, Inc., reiterate the belief in Diane's commitment and the quality of her work. When accepting her award, Diane's first humble words were, "It's just my job. That's what I was supposed to do." How outstanding that someone who is truly improving the lives of students sees it simply as "doing her job."

Nominating Susan Hornor, colleague Linda McGlocklin credits Susan with a dedication that led their school, Evergreen Elementary in Spokane, Washington, to adopt *Reading Mastery* as the school reading curriculum with school district approval and financial support. Susan is a first grade lead teacher. Linda also states that, "Susan's passion for reading and ensuring that all students have essential skills reaches beyond the first grade. It has led her to develop a before school tutorial model for third

through sixth grade students. The curricula for this tutorial are *Corrective Reading* and *Reasoning and Writing.* Students in the tutorial have averaged from 1½ to 2 years gain in their reading skills as assessed by the Qualitative Reading Inventory."

The nomination letters for Susan, which included testimonials from parents whose children have been taught by Susan, attest to her motivation, dedication, patience, and her absolute commitment that all students can learn at high levels. Susan is well known for giving up breaks and lunches to ensure that children who need extra help in order to succeed, get that extra help and attention. Dr. Betty Cook, Principal at Evergreen, characterizes Susan in the following statement. "In short, Susan is a phenomenal educator in every sense of the word. She contributes to the lives of students and adults in profound ways. When I walk through the halls of this school, I am constantly reminded of the children whose lives she has literally changed by teaching them to read, seeing themselves as scholars, and to confidently move into their futures. Susan is the most noble example of a teacher I have ever met."

Stacey Herrmann teaches at Wilson Creek Jr./Sr. High School in Yucaipa, California. Margaret Messina of Advanced Education Services states that, "Stacey has been instrumental in advancing teaching to mastery through Direct Instruction at her Junior/Senior High site for at-risk students, as well as at a sister site. The majority of these students are special education students—all of the students are an average of three to four years behind in reading, writing and mathematics."

Stacey recognizes and embraces the value of research-based instruction and has become the leader among her peers in the successful implementation of DI in her school. Stacey and her students have field tested DI science textbooks by Dr. Ken Miller and Dr. Linda Carnine. Gilbert Quinbar of Trinity Children and Family Services relates that, "Because of the enthusiasm she generated in her students, they wrote to Dr. Carnine regarding their feedback on the earth science text and became an important part of the field-testing project. This ownership on their part created a highly motivated group of students who excelled in their science knowledge and self-esteem during that time." To describe the part Stacey plays on the Wilson Creek team, Director Joyce Garrison says that, "She is a role model for other staff at all times in terms of her instructional practices and educational methodology; her support of appropriate student behavior; and her commitment to advancing the progress of staff in the implementation of new strategies and techniques. She has eagerly agreed to train other staff whenever requested."

In reading the letters of support for Stacey it is quite clear that she represents the dedication and enthusiasm that merit the distinction of excellence within education.

"Indomitable, incredible, and a lot of other 'in' words" is how Zig Engelmann described Bernice Whelchel in his introduction of her as a recipient of excellence in education. Zig also expressed that he is humbled by Bernice because of the work she does in the field with her teachers and students. Bernice is the Principal of City Springs Elementary in Baltimore, Maryland, one of the Excellent Schools for this year. In a letter of support for Bernice, Zig states that, "Bernice inherited what everybody agreed was the lowest-performing school in a city with very low-performing schools." She and her school have made tremendous gains since that time.

When the school first implemented DI in 1997, not one student in third or fifth grade passed the state test. This year, 83% of the first graders, 64% of the second graders, and 67% of the fifth graders were at or above grade level in reading. Many people credit such improvements to Bernice—not that she did it alone—but that she effectively and efficiently used any and all resources she had to the greatest capacity.

Jane Green

Diane Hill

Susan Hornor

As Laura Doherty, Implementation Manager for the National Institute for Direct Instruction (NIFDI), stated in her letter, "Bernice constantly examines and re-examines instructional practices at her school and solves problems in a positively determined way. As an implementation manager, I found myself in the enviable and rare position of working with a principal who was constantly asking, 'What more can we be doing?' and 'What can we be doing better?' When problems came up and possible solutions were discussed, I could bank on the fact that action would be taken by the time I returned the following week. Nothing that would improve the quality of instruction was out of the question."

The students at City Springs are high achieving, motivated students guided by excellent teachers lending to a positive and pleasant atmosphere due to the determination and leadership of Bernice Whelchel. Laura Doherty states it quite simply, "She truly exemplifies excellence in education."

Excellent School

City Springs Elementary in Baltimore, Maryland is one of three recipients of the Excellent School Award. The story of City Springs since the implementation of DI five years ago is truly inspirational. What a difficult task to summarize the pages of support City Springs generated from the pool of people who supported the nomination of the school. First, some history. Muriel Berkeley of the Baltimore Curriculum Project stated that, "Five years ago City Springs was a school out of control. Children followed their whims out of classrooms, out of the building. The faculty ran around in circles from one crisis to another. Children did not respect adults and adults did not respect children. Children were not learning."

Gary Davis, NIFDI Project Director, has been involved with City Springs since the inception of DI in their school. He describes the situation as such, "City Springs is a 100% low-income school set in a high poverty inner-city neighborhood. The vast majority of students come from one of the lowest income housing projects in the nation."

So what happened in City Springs that five years later they are being recognized as an excellent school? The faculty investigated DI curricula and decided to try it. Under the leadership of the Principal, Ms. Bernice Whelchel, the staff at City Springs has risen to many challenges and expectations, the most difficult being that all children must learn.

A paragraph by the NIFDI Implementation Manager, Laura Doherty, describes the absolute turn around the school has experienced.

"I had what can only be described as a true 'high' the other day during the math period. As a consultant, I'm constantly on the lookout for problems and always listen to whatever instruction is going on, even if I'm just walking by. As I walked from one end of the hall to the other while on my way to the office, I heard classroom after classroom of what can only be described as great teaching and students learning. Classroom after classroom of good pacing, unison responses, and praise. Then I was struck at how normal it was at City Springs for virtually every student in the school to be actively engaged in good instruction, hour after hour, day after day. The power of this realization was intoxicating."

At this point the majority of City Springs students are performing above or at grade level in reading and the CTBS/5 results have shown dramatic increases in the years 1998–2001.

At this point the majority of City Springs students are performing above or at grade level in reading and the CTBS/5 results have shown dramatic increases in the years 1998–2001. Jerry Silbert gave a breakdown of the test scores as follows. In 1998 median student performance on the CTBS in reading was below the 30th percentile. In 2001 the first grade median was at the 82nd percentile. For math first grade students were below the 10th percentile in 1998 and in 2001 the first grade scores were at the 60th percentile.

The consensus is that City Springs is now not just a model DI school, but a model school. Not only has student and teacher behavior transformed, but the school has the data to verify their academic achievements.

Hampstead Hill Elementary, also in Baltimore, is in its fifth year of DI implementation. Hampstead Hill has received Outstanding Achievement Awards based on its MSPAP and CTBS scores. It has adopted a serious, rigorous all-school DI model, and given its achievement on the standardized tests, it is apparent that the model is working well. Hampstead Hill achieved the highest Maryland State Performance Assessment Program composite score in the school's history on the 2000 MSPAP.

Hampstead Hill fully implements the reading, language, math, and spelling programs in grades k–5. In his letter of recommendation for Hampstead Hill, Project Director Gary Davis supplied demographics which give context to some factors with which the school must contend. Hampstead Hill is a low-income school with 560 students with 90% qualifying for free or reduced lunch. The transient rate is just over 30%. In spite of these figures, as Gary Davis notes, "Hampstead Hill is somewhat unique as inner-city schools go. The physical plant is in excellent shape due to a remodel shortly before the implementation of DI. As expected, the students were truly low performing academically; however, the school was not full of behaviorally out of control students. The staff was a veteran one and very entrenched."

The dedication of the staff members is a leading contributor as to why Hampstead Hill has made such great gains. They have been self-motivated in establishing afternoon practice sessions once a week, developing their own data notebook for all teachers to maintain, and establishing grade level teams. By the second year of implementation they were independently able to regroup grade-wide based on the mastery tests and independent work. This has led to the development of a core of excellent coaches who work with new teachers and teachers and students who have problems.

Percentile charts show that students in the first, second, and fifth grades are slightly above the 50th percentile in reading. At least 20% of students in

grades 1–6 are reading at least one program level above grade level, and often more. Math scores have shown increases over the last four years. "The overall trend as one would expect is increased lesson progress for groups in the first three grades. This acceleration in lesson progress is due to the increase in the staff's ability to teach the programs," comments Davis.

And from the perspective of someone who has worked with the staff of Hampstead Hill since the introduction of DI into the curricula, Mr. Davis adds that, "Hampstead Hill is a model DI school. A stroll through the halls or a quick visit to any classroom would tell you this. The staff has put in an incredible effort and time to become one of the best. I think they have earned the recognition that this award would give them."

"There are no excuses. All students can learn." That is the policy that Ron Costa, Principal, and his staff developed at Rio Altura Elementary in Riverbank, California in order to go from the "weakest link" two years ago to a nine out of ten ranking compared to similar schools throughout the state. "Rio Altura has been a model school in our county. Through the implementation of DI programs, Rio Altura has demonstrated that effective teaching assures that **all** children can learn. A schoolwide effort to train and coach staff members was initiated after collecting and analyzing data for the 1998–1999 school year. The data demonstrated significant gains in reading (both decoding and comprehension) for students involved in a pilot study of *Reading Mastery* and *Corrective Reading*. After schoolwide implementation, Rio Altura's API scores showed a growth of 143 points proving the difference DI makes in student achievement." These words come from Reading Program Coordinators from Rio Altura, Pat Elston and Cyndi Fletcher.

Frank Smith and Linda Youngmayr of the Stanislaus County Office of Education have this to say about Rio Altura. "During the last two years, Rio Altura has developed a statewide reputation for outstanding improvement in its educational program. The State of California's STAR Testing program

"They have truly shown what is possible to accomplish when you aim high, take responsibility for student performance, and provide instruction that is designed to ensure student success."

identified Rio Altura as one of the 10 most improved schools for the 2000–2001 academic year." "Rio Altura is truly an outstanding school. The staff is motivated to assure the highest possible academic attainment for every student. This fact is reflected in all that they do. The atmosphere of the school demonstrates true caring for children and a commitment to accomplish what is best for them. It is this fact that makes our county so eager to send other sites to witness what they have accomplished."

In 1999, 30% of 2nd graders were performing at or above the 50th percentile. A year later, 51% of 2nd graders were at the norm. With a significant number of students at Rio Altura being English Language Learners, only 13% performed at the 50th percentile in 2nd grade in 1999, while in 2000 38% of ELL students were at or above the national norm. The last few years at Rio Altura represent a time of continual and significant growth and improvement. The gains at the school were so impressive that they made the front page of the local newspaper. And as Dr. Cathy Watkins emphasizes, "They have truly shown what is possible to accomplish when you aim high, take responsibility for student performance, and provide instruction that is designed to ensure student success."

Wayne Carnine Most Improved Student Award

Six students were chosen this year from a pool of inspiring examples of student improvement.

Amanda Bhirdo's condition was described to her parents as developmentally delayed, explaining why she was two years behind her peers in her ability to walk, talk, and otherwise develop age-related skills. At four years old Amanda was placed into a special education head-start program to help prepare her for kindergarten. Amanda struggled through kindergarten with the help of a loving teacher although she was academically unprepared for 1st grade. While in 1st grade the school placed her permanently into the special education program. After a discouraging conversation with the school psychologist in which the psychologist predicted a bleak future for Amanda academically and socially, Amanda's mother, Marsha Rodman-Green, determined to dedicate her life to her daughter's success and to other children with learning disabilities.

Marsha contacted Rodney Kerr of SRA/McGraw-Hill who helped provide training and material for Marsha to use with Amanda. Marsha's knowledge of DI originated seven years earlier when it was used with her son, and taught him to read.

Amanda is now eight and in the process of completing *Reading Mastery I* and *Language for Learning.* She is enrolled in a regular education kindergarten program and is on task and reading. Direct Instruction has truly changed Amanda's life. Amanda has since been diagnosed with infantile

autism, replacing the developmentally delayed diagnosis. The doctor who made this diagnosis was so amazed with the skills Amanda had acquired that he told Marsha she had worked her daughter out of autism and encouraged her to continue what she was doing with Amanda.

Amanda has gone from a depressed child with little confidence to one with enthusiasm as she has now experienced the feelings of success and learning and her attitude of "I can't do this" has turned over to represent her new skills and abilities. Marsha has noticed other growth concurrent with her language skills, such as riding her bike, playing hopscotch using the correct feet and not falling down, dressing herself and her dolls. She no longer hides under the table when it is time for her lesson—she doesn't need to hide—she knows she can tackle the tasks at hand.

Marsha attended the Eugene Conference with the knowledge that Amanda's school, Island Christian School in Islamorada, Florida, has hired her as the Reading Specialist to assist children with their reading skills. Marsha was able to personally thank Zig Engelmann for authoring the programs that indeed change lives and Amanda exemplifies the possibilities when a dedicated instructor unwilling to accept failure uses an effective program.

Donte Brooks entered Collington Square Elementary in Baltimore, Maryland as a non-reading third grader. His prior school experience included being told that he was "stupid" and that he would "never learn to read." Needless to say Donte had come to view school as a negative place and himself as someone incapable of learning. In third grade Donte scored too low for placement in *Decoding A*, leading the Curriculum Coordinator, Brenda Griffin, to begin *Fast Cycle I* with him.

The transition to Direct Instruction was not easy for Donte. He did not like being corrected (*at all* says Ms. Griffin) and he consistently said to Ms. Griffin, "I hate you. I want to go back to my old school." Nonetheless Donte and Ms. Griffin worked together and did 8–10 lessons per week. By October they had reached the first storybook. Donte's concept of reading was starting to change. The "I hate you" comments stopped and in May he placed into *Decoding B1.* He achieved two years growth in reading in 10 months. Donte now knows and feels that he can learn and was overheard telling a new student, "Yeah, I couldn't read before, but Ms. Griffin taught me, and now it's just in my head." Donte now experiences a well deserved sense of pride and represents what is meant by the term "Student Improvement."

His reading increased more than three years with one year of DI in a tutorial setting two to three hours per week.

Daniel Cahill of South Plantation High in Plantation, Florida entered Koala Learning Center for reading assistance two to three hours per week as a sixteen year old with a reading level of a third grader. Daniel was labeled as dyslexic/learning disabled and has been in special education classes since the early elementary grades. Throughout his school career he has received intense full time services and his parents have spent thousands of dollars in private programs including a private LD school, and intensive one-to-one remediation with one of the area's prominent reading specialists. Despite these efforts Daniel was only at a third grade reading level by the beginning of his ninth grade year.

At the Koala Learning Center Daniel has been instructed with *Corrective Reading, Decoding.* Marvin Silverman, Director of Koala commented that, "Despite a decade of failure, frustration, disappointment, and not being able to reach a literacy level, Daniel was cooperative and did not complain about this last effort to try to improve his reading. He persevered with our center's teacher and never complained about having to attend these remedial sessions." Within a year Daniel had reached the end of level C and tested out on a middle school word recognition level and a high school comprehension level. His reading increased more than three years with one year of DI in a tutorial setting two to three hours per week. Mr. Silverman points out that, "With DI, he showed as much growth in 105 hours of instruction as he did with eight years of effort prior to DI."

Mr. Silverman commends Daniel for "his willingness to try another approach despite all of the frustration and lack of success in the past." It is indeed a pleasure for the Association for Direct Instruction to recognize the tremendous improvement achieved by Daniel and to reward his perseverance as he strives to become a better reader.

Following are the words that Mrs. Daniela Greco, Academy Coordinator for Beach Channel High School in Rockaway, New York, used to describe Natanael Lozado in her letter of nomination for the Most Improved Student. "I have had the pleasure of knowing Natanael Lozado for the past three years. I first became acquainted with Natanael when he was a student in my *B2 Decoding* class. As I worked with him, I began to realize what a fine young man he is to both his teachers and fellow classmates. I knew that one day I would nominate him for the most improved student. This day has finally arrived."

Daniel is sixteen and serves as a model of appropriate behavior for his peers. He is energetic and helpful while suffering with asthma in the winter and

allergies in the summer. Those ailments do not stop him from helping Mrs. Greco in her office, tutoring other students in decoding during his lunchtime, and helping his Spanish-speaking parents with English. Natanael's classroom participation and politeness have yielded positive teacher reports regarding class work and relations with peers and faculty members. In 1999 Natanael's Woodcock Johnson scores were: W.I.: 3.4, W.A.: 1.7, Comp.: 3.9. Natanael attributed these low scores to frequent absences in junior high due to his asthma. Bilingualism may also have contributed to these scores. With the combination of coaching from Mrs. Greco and sheer determination on the part of Natanael, his 2001 Woodcock Johnson scores were W.I.: 7.7, W.A.: 12.7, and Comp.: 10.7. Natanael learned perseverance from his experience. He has been self-motivating and he has reaped high rewards as a result of his determination, laying the path for future success.

Sacrifice and perseverance are two of the characteristics that describe Hadley Quintard and his ability to make great gains during the 1999–2001 school years. Hadley's mother asked the reading teacher, Ms. Jonita Sommers to tutor Hadley using DI curricula starting in November 1999. As a seventh grader at Big Piney Middle School in Big Piney, Wyoming Hadley took the Gates MacGinitie Reading Test in November 1999 and fell into the following percentiles: Vocabulary: 9th (4.0 grade level); Comprehension: 8th (3.4 grade level); Total: 8th(3.7 grade level). These results showed his performance significantly behind grade level and struggling desperately. For Hadley the following months consisted of intensive tutoring coupled with an active extracurricular schedule that included basketball and track. Hadley was tutored four mornings a week and requested 7:30 a.m. sessions to allow him to be in basketball practice after school. January through March Hadley did not have any after school sports and went to tutoring four to five days a week for an hour each day and never missed a scheduled day. During school vacations Hadley took the *Decoding C* book home and did the lessons with his mother. During the summer break of 2000 Hadley's mother drove him to Ms. Sommers' ranch 45 minutes out of town twice a week and Ms. Sommers met them in town once a week. Hadley helped his grandfather in the hayfield everyday, so he came early in the morning when the dew was on during haying. He also gave up some nights of team roping so he could be tutored. When school started that year Hadley and Ms. Sommers worked together four days a week at 7:30 a.m. with Hadley always on time and sometimes early. In that time he one day brought his eighth grade physical science book to tutoring to get help reading and comprehending, but he didn't even need the help. As Ms. Sommers said, "All he needed was some success, which gave him much needed confidence."

In May 2001 Hadley took the Gates MacGinitie Reading Test for the third time. His scores were in the following percentiles: Vocabulary: 14th (5.0 grade level); Comprehension: 31st (7.7 grade level); Total: 27th (6.1 grade level). Overall he has gained 2.4 years on the Gates MacGinitie Reading Test after 1.5 years of instruction using DI material. Hadley has not had a failing grade since he began working with the DI programs.

Ms. Sommers has used DI programs for twenty years and has never seen a student work so hard or give up so much of his own time so he could learn to read. Of Hadley she said, "I have had students gain as much as Hadley or more and even in a shorter time span, but no one has put in the day after day effort he has done without complaining or trying to get out of it. Reading was hard for him, but with the Direct Instruction programs and his perseverance, Hadley has learned how to read!"

Patrick McFadden spoke with great enthusiasm in his nomination letter for Tony Tran from Charles Carroll Barrister Elementary in Baltimore, Maryland. Tony was born in Vietnam and moved to Baltimore when he was three. Tony's parents have limited English speaking skills thus Tony was placed into the school's ESOL program when he entered kindergarten. Because of his limited English Tony did not do well in kindergarten. Tony began DI in kindergarten and by 2nd grade he scored in the 99th percentile in both language and math on standardized tests and tested out of the ESOL program. As Mr. McFadden stated, "He totally embraced the DI system."

"In addition to the amazing amount of academic improvement Tony has made in the last two years, he also serves as a positive example of how to behave in a classroom. He follows the rules of Direct Instruction, from answering on signal to checking and correcting his work. His behavior proves the adage that academic achievement is the key to discipline." Those words from Mr. McFadden summarize the awesome achievements Tony has made with the combination of his own will and his school's use of a research-based program that has again proven effective.

The preceding summaries offer only a glimpse of these outstanding individuals and the contributions they are making nationwide. It is clear to see how the cycle comes full-circle. The schools make the decision to utilize Direct Instruction, allowing the opportunity for dramatic improvement. In the classroom the teachers reach excellence as a result of personal persistence and dedication combined with an effective tool which allows students to grow. And the students are given a chance to realize their full potential and to understand the excitement of learning and mastery. Perhaps as these stories make more headlines and more lives are affected as such, the dream of more children truly learning will be realized. ADI

JERRY SILBERT

A Dozen Suggestions to Make DI Beginning Reading Implementations Produce More Student Learning

Jerry Silbert is co-author of the college text, Direct Instruction Reading and Direct Instruction Mathematics. He also co-authored Levels C & D of Reasoning and Writing and levels I & II of Expressive Writing. In the past decade he has been involved in the implementation of the DI model in a number of schools throughout the U.S.

This paper is addressed to educators who are using the Direct Instruction programs *Reading Mastery*, *Language for Learning* and *Language for Thinking* as a beginning literacy program with at-risk populations and to advocates for children in communities in which Direct Instruction is being used.

There are numerous schools throughout the nation in which Direct Instruction is being used to make very significant gains in student achievement. The challenge now is to create implementations in which all schools in a district using Direct Instruction produce very large gains in student achievement.

Below are 12 suggestions that I believe can lead to greater and more uniform student achievement gains in DI implementations.

Suggestion 1. More Focus on Bringing Children to Grade Level by End of First Grade.

The success of the Direct Instruction Model in producing large gains in student achievement is dependent on what happens before the end of first grade. Bringing children to grade level status by the end of first grade is essential if children are to be successful and score well on tests in first grade and in future grades.

At-risk children who master the content of *Reading Mastery I* and *II* and the content of the first two levels of the Direct Instruction language programs, *Language for Learning* and *Language for Thinking*, by the end of first grade score at or above grade level on standardized tests. Children who just complete Level I by the end of first grade will generally score very poorly on the standardized tests and not improve significantly in their scores in later grades.

The goal of having virtually all children complete and master the first two levels of the *Reading Mastery* and *Language* programs by the end of first grade is not easy to reach, but has been achieved in a number of schools in high poverty areas and is therefore possible.

Suggestion 2. More Emphasis on Teaching DI in Kindergarten and Pre-Kindergarten

A quality DI program in kindergarten is essential to have all children reach grade level by the end of first grade. The DI programs must be implemented in kindergarten with a sense of urgency to have most children complete and master the content of the first levels of the reading and language programs.

Full-day kindergartens, low teacher-student ratios, adequate time for instruction and a high quality and quantity of training for the teachers, not only in Direct Instruction techniques but also in classroom organization and management contribute to reaching this goal.

Pre-kindergarten classes during which *Language for Learning* is taught to all children and the DI reading program is taught to more advanced students can play an important role in reaching the goal of bringing all children to grade level by the end of first grade.

Suggestion 3. More Emphasis on the Direct Instruction Language Programs

The *Language for Learning* program and its sequel *Language for Thinking*, formerly DISTAR Language I and II, play a critical role in preparing children to be good comprehenders. *Language for Learning* teaches important fundamental language concepts and vocabulary that many children have not mastered upon entering kindergarten. Both levels teach important analytical and deductive reasoning skills that help students comprehend sentences and passages.

The DI language programs must be taught in a high quality manner with the students' performance carefully monitored to ensure mastery. Ideally students will master the content of both levels by the end of first grade.

Suggestion 4. More Instructional Time

If at-risk children are to be able to perform at the same level as their more privileged peers who receive a good deal of instruction at home, the at-risk child must receive a good deal more instruction at school. Just a "business as usual" attitude will not get the kind of gains that are possible.

Below is a brief overview of time requirements that appear to be needed in order to achieve grade level per-

formance for virtually all children by the end of first grade.

In kindergarten a 90-minute a.m. period and a 60-minute p.m. period devoted to teaching Direct Instruction appear necessary to enable all children to reach desired levels. Each instructional group should receive a full 30-minute period for reading instruction every day. For the average and lower performing groups an additional 15–30 minute DI reading period in the afternoon is needed in order to facilitate making the lesson progress needed to complete and master the 160 lessons of *Reading Mastery I* by the end of the school year. The same time allocation would ideally be provided for *Language for Learning*. Providing this level of instruction will be much easier if an extra person such as an aide or auxiliary teacher is made available to teach the language groups. DI language instruction should begin the first week of school. DI reading instruction should begin by the second week for higher performers and by the end of the third or fourth week of school for nearly all the other children.

In first grade and higher, a 90-minute a.m. period and a 90-minute p.m. period are needed for language arts instruction. At the beginning of the school year, each instructional group should receive a 30-minute DI reading period in the morning and a 30-minute DI reading period in the afternoon. As the school year proceeds, when a group is at a stage in the *Reading Mastery* program at which they will easily be able to complete *Reading Mastery II* by the end of first grade with just one period a day, the teacher can utilize the afternoon period to have children read in supplementary reading materials. For example, it is the 60th day of the school year and the group is at lesson 80 in *RM II*. There are 120 school days left in the year and only 80 more lessons to be covered in *RM II*. The afternoon period could be devoted to reading in other materials. In addition to reading instruction each instructional group should have at least 30 minutes a day of language instruction with more time scheduled if needed to complete the second level of language by the end of first grade.

For some children, full morning and afternoon periods will not be sufficient. Extra time after school and during the summer may need to be scheduled if the goal of having children finish *RM II* by the beginning of second grade is to be reached.

In kindergarten a 90-minute a.m. period and a 60-minute p.m. period devoted to teaching Direct Instruction appear necessary to enable all children to reach desired levels. Each instructional group should receive a full 30-minute period for reading instruction every day.

In grade two and above, the language arts instruction should include the a.m. and p.m. reading periods. Students who are in *Reading Mastery III* would receive reading instruction in supplementary reading materials during the afternoon period.

Suggestion 5. More Emphasis on Monitoring Student Mastery

DI is based on mastery teaching. The content taught in the early lessons is prerequisite for success in later lessons. If children are not taught to mastery in early lessons, progress in later lessons will be slowed.

In-program mastery tests in reading and language need to be administered and the results recorded. In reading, emphasis should be placed on fluency as well as accuracy. Teachers need to provide the remediation exercises specified in the teacher's guide when students fail a mastery test. Children having difficulty (not passing two consecutive mastery tests or performing poorly in daily lessons) need to be identified in a timely manner and solutions planned and implemented immediately to enable them to be successful.

The principal of a school must be sure that the DI mastery tests are being administered correctly and that the data reports are reliable. A system through which someone other than the teacher periodically tests students to determine their level of mastery should be established with more frequent testing by someone other than the teacher in classrooms in which student performance is poor or data submitted was not reliable.

Suggestion 6. More Focus on Implementing the DI Data Management System

The DI Data Management System includes: (a) frequent examination by a school leadership team of the lesson progress and mastery test performance of students in the DI programs, (b) identifying situations in which student progress and performance are at desired levels and providing positive feedback to teachers, (c) identifying situations in which student progress and/or performance are inadequate and planning and implementing solutions to problems causing inadequate performance or progress, and (d) monitoring the effectiveness of proposed solutions.

More specifically:

1. Each week or second week, the principal, coach(es) and grade level teachers meet to examine (1) reports on student performance on the DI mastery tests and (2) reports on the number of lessons that have been taught to each group during the current period.

2. The performance of every child and every group is examined to determine:

   a) individual students who are not at acceptable performance levels,

   b) particular skills which more than 25% of students are having difficulty with,

   c) groups in which more than 25% of students are not at satisfactory performance levels,

   d) groups that have not made acceptable progress in terms of lesson progress towards finishing *Reading Mastery I* by the end of kindergarten or towards finishing *Reading Mastery II* by the end of first grade.

3. The principal, coach and grade level teachers, with the input of a senior DI trainer, plan solutions to improve student learning when mastery test performance and/or lesson progress are not at desired levels.

4. The principal assigns a coach to monitor solutions for individual students. The principals monitor solutions for groups in which more than 25% of the students are failing the in-program mastery tests and groups that are not making desired lesson progress.

5. Each meeting includes a follow up on solutions already implemented in previous weeks to make sure the solutions are effective. If solutions devised at previous meetings have not been successful, modifications should be planned and implemented.

Suggestion 7. More Inservice Sessions Devoted to Training and Role Playing Practice.

In a DI implementation, the quality and quantity of inservice and in-class coaching provided to teachers and assistants make a significant difference in determining how much students will learn.

Teachers must learn a number of new techniques throughout the school year. On-going inservice training sessions throughout the school year, presented by a qualified DI trainer, followed by practice sessions in which teachers practice the techniques together and receive feedback, need to be provided to all teachers and assistants whose performance is not at high levels of proficiency. Practice sessions can be led by exemplary teachers who have received training in how to conduct inservice sessions. There needs to be administrative monitoring to ensure that the training and practice sessions are productive.

An important part of a DI implementation is to locate these exemplary DI teachers and prepare them to coach other teachers. Districts that have been using DI for more than a year will most probably have teachers who have reached proficient levels.

Inservice training and role-playing practice need to occur more frequently early in the school year since the most critical part of DI programs are the initial lessons. The early lessons of DI programs establish the foundation for future learning. Ideally during the first weeks of the school year, teachers would practice 2–3 times a week for 30–45 minutes and thereafter just once or twice a week. Teachers must be brought to high levels of proficiency as early as possible so that they can teach the early lessons well.

Suggestion 8. More In-Class Coaching

In-class coaching is a critical element of the DI Model. In most school districts, during the first year(s) of implementing Direct Instruction, the district will rely on outside consultants. While there are many excellent individual consultants and consulting firms that provide proficient training, outside consultants alone generally cannot provide the quantity of coaching needed to bring all teachers to high levels of proficiency. In high poverty schools there are often a significant proportion of teachers who will need more frequent coaching than an outside consultant who visits monthly can provide. In order to provide this frequent coaching, local exemplary DI teachers will need to be trained to serve as coaches to initially supplement and eventually take over the coaching provided by outside consultants.

An important part of a DI implementation is to locate these exemplary DI teachers and prepare them to coach other teachers. Districts that have been using DI for more than a year will most probably have teachers who have reached proficient levels.

One model that appears to have great potential for providing an ideal quantity and quality of coaching is based on the work of the RITE project in Houston. Exemplary DI teachers are selected to fill DI coach positions with about one coach for each 15–25 teachers for first year schools and one coach for 30–40 teachers in schools with more than one year experience with DI. These coaches receive on-going training in how to coach from senior DI trainers and are supervised by a senior trainer as they coach teachers.

A second model is to train several exemplary teachers in a school to be coaches and use substitutes to free them to coach their peers. This school-based system is suitable for less high needs schools in which teachers

are readily willing to accept feedback from peers and competent substitutes are available.

An important challenge in creating a coaching support structure is to ensure it is performance oriented. The performance of coaches must be monitored to ensure that they are effective in helping teachers and raising student achievement.

Whatever system is used, a district should ensure that there is sufficient coaching available to bring all teachers to acceptable and then proficient levels in a timely manner.

Suggestion 9. More Training and Support for Building Principals

The principal must be familiar enough with the details of Direct Instruction to ensure that the elements of the DI Model: professional development, placement, grouping, scheduling, classroom teaching, administration of assessments and data analysis are in place and are being well implemented in the school. The principal must ensure that the teachers are receiving sufficient training and encouragement to reach high levels of proficiency in implementing all components of DI in their classrooms.

Principals need on-going training. Ideally, the principal should attend the inservice training for teachers and actually teach a DI group for several weeks and receive coaching. This experience would only require 30 minutes a day of the principal's time.

Principals need to receive inservice before the school year on organizing the school for DI, and during the school year for on-going elements such as making classroom visits, implementing the data management system, and providing assistance to teachers and students having difficulty. In addition to inservices, principals should visit schools in which DI is well implemented and receive mentoring at their school from a DI principal who has successfully implemented DI in a similar school.

More help should be provided for principals of schools in which undesired student behavior is interfering with instruction.

A program to encourage children to read at home independently should also be established. The materials a child is to read independently should be at the student's instructional level. Parents ideally would be involved, listening to their children read and taking steps to encourage the child to read at home.

Suggestion 10. More Focused District Level Leadership on Raising Student Achievement

School districts place a number of demands on principals. Like any employee, a principal will devote more time to demands that receive the most attention from one's supervisor, in the case of school districts, the principal's supervisor is generally a regional superintendent.

Some districts with multiple schools using DI often create DI coordinator positions. However, because these "coordinators" do not have evaluative authority, their suggestions often do not receive priority from principals. To provide a clearer communication of the district's priority in improving student's reading achievement, ideally, the district should place a district leader who has authority over principals in charge of a DI implementation. This administrator's job evaluation ideally would be dependent in part on the achievement gains of the students in the grades in which DI is being taught. The district leader should receive training in the implementation of DI. Ideally a district leader would be a DI principal who has been successful in using DI to produce big gains in achievement. The DI coordinator would be under the authority of this district leader.

The district leader demonstrates to the principal and teachers where district priorities are placed by meeting on a regular basis (monthly) with the principal and school leadership team to examine and review the lesson progress and student mastery test reports in DI programs. By examining the data, providing positive feedback to those producing desired learning, and following up on the status of interventions taken in response to inadequate student progress or performance, the district leader will demonstrate to principals the priority of the district in utilizing time and resources to facilitate increased achievement.

The district leader supports school personnel by ensuring that they receive a sufficient quality and quantity of professional development support and providing the school with clear authorizations on prioritizing budgeting and time usage to support an implementation which can bring all children to grade level.

Suggestion 11. More Supplementary Reading

At-risk children need to learn a great deal more at school than their more privileged peers. Teaching children to read early enables children to use reading as a tool to learn more information. Ideally, with good kindergarten instruction, children will reach a point in the DI programs early in first grade where they can begin reading materials from a variety of other sources.

Reading in additional material can begin once children have progressed far enough in the *Reading Mastery II* program to read traditional print, this is about lesson 80 in *Reading Mastery II*. For higher performing children, extra reading materials can be incorporated somewhat earlier.

Structured supplementary reading should be done in materials that are carefully coordinated with the introduction of skills introduced in the *Reading Mastery* program. The teacher's guides for the *Reading Mastery* programs contain suggested reading material. Instruction in reading this supplementary material needs to be structured with difficult words, new vocabulary and comprehension skills explicitly taught. District coordinators can help teachers by having exemplary teachers select materials and make lesson plans that can be shared with other teachers.

A program to encourage children to read at home independently should also be established. The materials a child is to read independently should be at the student's instructional level. Parents ideally would be involved, listening to their children read and taking steps to encourage the child to read at home.

Suggestion 12. Use Homogeneous Construction of Classrooms to Accelerate Performance of Students.

Acceleration of student progress is critical in schools serving at-risk students. Teaching children to read in kindergarten and first grade is the first step. In addition, a sense of urgency needs to be maintained in later grades. School staffs must keep in mind the goal of preparing children to compete with their more advantaged peers. Even with the higher performing students, there must be a sense of urgency to maximize student learning.

Constructing classrooms so that the skill level span in classrooms is not too great makes it more possible to accelerate children, as such grouping arrangement makes more efficient use of the time during the entire school day possible.

Constructing classrooms so that the skill level span in classrooms is not too great makes it more possible to accelerate children, as such grouping arrangement makes more efficient use of the time during the entire school day possible. When the children in a classroom are at the same level, the teacher can provide whole class instruction which is at the instructional level of all students in the class for spelling and writing, supplementary reading, and for content area instruction in areas such as science and social studies.

Classrooms can be constructed to contain instructional groups that are near the same lessons in the reading program. For example, in a school with four second grades, one second grade might have the two highest performing groups and one classroom the lowest performing groups with the middle groups divided between the other two classrooms. The class with the highest performers would have the most students. The class with the lowest performers would have fewer students. Help from extra teaching personnel would focus on the class with the lower performers.

A Closing Note

When high poverty schools begin using Direct Instruction, it is common to find many children even in first or second grade who are a year or two below desired levels. For example, it is not unusual for almost half the second graders in a low-income school beginning DI to be placed somewhere in *Reading Mastery I*. These children are two years below desired levels. The implementation of DI for these children must be designed to significantly accelerate their progress. Simply completing one level of the DI programs a year is not enough. The students will need two full periods a day, an after school period, peer tutoring and summer school. The goal is for children to master significantly more than one lesson a day. Without a high level of urgency, there may be very little gain in test scores with children who began DI in first or second grade rather than kindergarten. This low test score gain can be very discouraging to staff and threaten the eventual success of DI in the school. More importantly without the additional instruction, these children will not be provided with ample opportunity to reach the high levels of achievement that will be demanded of them in later grades. ADI

JESSICA THOMPSON, University of Oregon, Eugene

How to Achieve Excellence

Defining Excellence in Education

In any profession excellence and distinction are based on individual performance. When an individual has accomplished a feat and experienced success, he/she has achieved excellence. Similarly, in education, teaching performances provide the foundation for excellence. Distinction, acknowledgement, and merit are warranted when students have achieved to their fullest potential.

It is evident that student progress, success, and achievement are positive indicators of excellence. Teachers and students have not achieved excellence if students are not progressing or achieving to their potential. On the other hand, if students are successful in acquiring new skills, excellence is the reality. It is apparent in education that the achievements of excellence and student progress/success are one and the same.

Achieving Excellence

Politicians, administrators, and educators have long contemplated the essential ingredients necessary to fostering student progress and excellence. Little do they know that achieving excellence (and student success) simply requires two essential components. The first is a structured, field-tested, research based curriculum. The second is a highly qualified and skilled teacher who is able to deliver the curriculum in an effective manner.

The First Component

A well-designed and effective curriculum provides the foundation for the achievement of excellence. Many educators feel that any curriculum, when taught well, will foster excellence and give students success. However, research and field-testing have proven that this is not the case. The quality of the curriculum contributes to the rate of student progress in attaining essential skills. Students are able to achieve more, in a shorter amount of time, with Direct Instruction. This is evident in numerous research articles published on the effectiveness of DI and on a classroom and student level.

Direct Instruction (DI) incorporates all of the essential ingredients that promote student progress. First, in DI curriculum, children are placed at their appropriate instructional level. Appropriately placing students helps ensure individual success during group instruction. Secondly, Direct Instruction introduces skills in a sequenced and structured manner. A structured and well-sequenced curriculum promotes learning at an optimum rate. Thirdly, DI requires students to review previously learned skills. Students build upon previously acquired knowledge. Review also ensures that students have mastered previously taught skills. Finally, DI provides ways for teachers to measure excellence and student progress. Teachers can collect useful data with reading rate graphs, independent work charts, and mastery tests.

The Second Component

A highly skilled teacher is also necessary in the achievement of excellence. It is impossible to overstate the importance of teachers. When it is taught sloppily or incorrectly, Direct Instruction loses its effectiveness. On the contrary, when in the hands of a master teacher, DI's effectiveness is compounded.

Since time is a commodity in the classroom, teachers must make every instructional minute count. In order for learning to take place at an optimum rate, the classroom must be a structured learning environment. A skilled teacher has clear expectations and classroom rules. Thus, ensuring that more learning and fewer disruptions take place. Similarly, a teacher

The Susie Wayne Scholarship

Susie Wayne was a friend to many in the Direct Instruction Community, and to many students in the Greater Seattle Area. She was an outstanding researcher, supervisor, and teacher. Her tireless spirit and great sense of humor were all the more remarkable because of critically serious medical problems that resulted in her death in 1996. In memory of her dedication to effective education for all students, the Association for Direct Instruction Board of Directors established The Susie Wayne Scholarship. The annual award of $500 cash goes to a graduate level student majoring in Education.

The basis for the award is an essay competition. Qualified candidates must write a 1,000 word essay titled "How to Achieve Excellence," and must be related to Direct Instruction. The winner for 2001 is Jessica Thompson of Eugene, Oregon who is a student of Special Education at the University of Oregon.

must deliver/teach Direct Instruction effectively. First, he/she should deliver a quick-paced lesson. This engages students and helps diminish off-task behavior. Secondly, the teacher must be enthusiastic about teaching and acknowledge positive student behavior. Enthusiasm and positive comments promote children's self-esteem and motivate them to achieve more. Third, the educator must be able to follow the DI lesson procedures. This involves preparing/pre-reading the lesson, following a script (format), and correcting student mistakes. Finally, the teacher must use data (reading graphs, mastery tests, independent work) to guide instructional decisions. If a student is not doing well, the teacher could provide extra practice and review, or place the student in a lower group. However, if a student is achieving well-above expectations, the teacher can skip lessons or place the student in a higher group.

Summary

In sum, teachers must define excellence in terms of their students' successes. Teacher distinction and student excellence is only warranted when students achieve to their fullest potential. Direct Instruction and highly-skilled educators are necessary to the achievement of excellence. Both components promote student success; which, in turn, makes teacher and student excellence attainable. ADI

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Using Direct Instruction Programs to Teach Comprehension and Language Skills to Deaf and Hard-of-Hearing Students: A Six-Year Study

ABSTRACT: Over a six year period, teachers at the University High School Deaf and Hard-of-Hearing Program in Irvine, California have used Direct Instruction programs in reading comprehension, spelling, and writing with their students. These programs were designed for and have been effective with regular education and remedial hearing students. This six-year study demonstrates that if certain adaptations are made in how the programs are taught, the performance of deaf and hard-of-hearing students can be greatly increased.

Introduction

Research has shown that deaf and hard-of-hearing students have very serious problems with reading (Lovitt & Horton, 1991), fluency (Cawley, Miller, & Carr, 1990), and text structure (Parmar & Cawley, 1992). Deaf students have particular difficulty with (a) figurative English such as idioms, similes and metaphors (Hughes, Brigham, & Kuerbis, 1986; McAnally, Rose, & Quigley, 1987); (b) English syntax such as verb systems, negation, conjunctions, complementation, and question structures (Kretschmer & Kretschmer, 1978; Quigley & Paul, 1984; Quigley, Power, & Steinkamp, 1977); (c) pragmatics such as topic maintenance and choice (Brackett, 1983; M. Nichols, personal communication, 1993); and (d) cohesive devices such as pronominalization, temporal adverbs, ellipsis, articles and synonyms (DeVilliers, 1988; Hughes & Moseley, 1988; Kretschmer, 1989). This delay in development of English language, especially in the areas of vocabulary and syntax, interferes with learning to read (Johnson & Evans, 1991; Quigley & Paul, 1989). As a result, most deaf students do not become proficient readers by the time they leave high school, plateauing at about the fourth grade level (Quigley & Paul, 1986). Students with more profound hearing losses perform at lower levels, as do hearing-impaired Hispanic and African-American students (Holt, 1993). Furthermore, contextual information, which is gained from understanding English structure and syntax, has been found to be even more important for less skilled readers (Stanovich, West, & Freeman, 1981; West & Stanovich, 1973). Research has also shown that limited vocabulary is a serious problem for deaf students (Karchmer, Milone, & Wolk, 1979; LaSasso & Davey, 1987; Silverman-Dresner & Guilfoyle, 1972), particularly those dealing with English function words and common content words (McAnally, et al., 1987).

A review of the research literature shows that there has been limited success in teaching English language to deaf students, regardless of the modality used (Quigley & Paul, 1984). English programs for school age deaf students should include a concurrent focus on all forms of communication, systematic teaching of linguistic competence in semantics, syntax, and pragmatics, and continuous evaluation of progress (Power & Hollingshead, 1982). However, the majority of currently available programs focus on very specific areas of language instruction, most notably syntax or grammar.

must deliver/teach Direct Instruction effectively. First, he/she should deliver a quick-paced lesson. This engages students and helps diminish off-task behavior. Secondly, the teacher must be enthusiastic about teaching and acknowledge positive student behavior. Enthusiasm and positive comments promote children's self-esteem and motivate them to achieve more. Third, the educator must be able to follow the DI lesson procedures. This involves preparing/pre-reading the lesson, following a script (format), and correcting student mistakes. Finally, the teacher must use data (reading graphs, mastery tests, independent work) to guide instructional decisions. If a student is not doing well, the teacher could provide extra practice and review, or place the student in a lower group. However, if a student is achieving well-above expectations, the teacher can skip lessons or place the student in a higher group.

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A review of the research literature shows that there has been limited success in teaching English language to deaf students, regardless of the modality used (Quigley & Paul, 1984). English programs for school age deaf students should include a concurrent focus on all forms of communication, systematic teaching of linguistic competence in semantics, syntax, and pragmatics, and continuous evaluation of progress (Power & Hollingshead, 1982). However, the majority of currently available programs focus on very specific areas of language instruction, most notably syntax or grammar.

Takemori and Snyder (1972) found that few of the programs used with deaf students were actually designed for deaf children, and, more importantly, none were evaluated when used with deaf students. More recently, Wathum-Ocama (1992) surveyed instructional English programs used with deaf students and found that nearly all teachers found age- and interest-appropriateness problems. Nearly half of the teachers noted a serious lack of emphasis on the appropriate English skills.

The effects of poor language-comprehension and vocabulary skills are exacerbated when these students work with other disciplines, such as science and history. For example, 70% of the content and activities in science are drawn from general science textbooks (Raizen, 1988). Tyson and Woodward (1989) labeled these science textbooks as "encyclopedic" compendiums of topics, in which the average hearing sixth grader confronts 300 new vocabulary terms (Armbruster & Valencia, 1989), and the average tenth grader is faced with up to 3,000 new words (Hurd, 1986). For deaf and hard-of-hearing students, language and vocabulary skills provide the key not only to reading comprehension, but also to virtually all other academic school subjects.

Two print programs have been developed specifically for teaching English to deaf students—the *TSA Syntax Program* (Quigley & Power, 1979), which uses reading and writing activities to deduce grammar rules in nine different areas, and *Communicate with Me: Conversation Strategies for Deaf Students* (Deyo & Hallau, 1983), which uses role playing and pictures to focus on conversation skills. A number of computer-assisted specific skill language programs designed for hearing students, such as *Figurative Language* (Abraham, 1984) and *Words and Concepts II* (Wilson & Fox, 1990), have also been used with deaf students. Other programs designed for deaf students utilize computers, computer networks, videotapes, and videodiscs to teach specific aspects of language skills. The ALPHA computer system (Prinz, Pemberton, & Nelson, 1985) attempts to increase conversation between students and teachers. An interactive videodisc program used at the California School for the Deaf at Riverside (Brawley & Peterson, 1983; Osaka, 1987), allows teachers to tailor grammar lessons around a videodisc story. The Electronic Network for Interaction, developed at Gallaudet University (Bruce, Peyton, & Batson, 1993), provides opportunities to use written English in communicating with other students on a computer network. The *Hands On* (Hansen & Padden, 1990) program uses a videodisc and computer to simultaneously present English captioning and ASL in various formats such as reading a story, answering questions, writing a story, and captioning a story. None of these programs have been formally evaluated to prove their effectiveness in teaching English semantics, syntax, or pragmatics to deaf students, and none represent an integrated language program as suggested by Power and Hollingshead (1982).

By the end of the 96–97 school year, data were available for two cohorts of students who had been involved in the program for four years. The results show that the approach has produced greatly improved student achievement.

Direct Instruction programs and methodologies were utilized in the Orange County Department of Education Deaf and Hard of Hearing (OCDE D/HH) program. Both the programs and methodology are commonly accepted as effective for use with all types of hearing students, including low-performing, bilingual, and learning disabled. Direct Instruction programs and methods have a long list of general studies validating their effectiveness with hearing students (Becker, 1984; Brophy & Evertson, 1976; Gersten, Woodward, & Darch, 1986; Haynes & Jenkins, 1986; Lockery & Maggs, 1982; Mathes & Proctor, 1988; Moore, 1986; Silbert, Carnine, & Alvarez, 1994; White, 1988). The most recent cumulative analysis of Direct Instruction programs (Adams & Engelmann, 1996) shows that in a simple comparison of mean scores, 87% of the nearly 40 studies analyzed favored Direct Instruction. In a comparison of statistically significant differences, 64% of the studies favored Direct Instruction while only 1% favored non-Direct Instruction programs. The analysis of effect sizes (Cohen, 1988) showed that Direct Instruction programs had an average effect size of .83 (.75 would be considered large and rare in educational research). Prior to the OCDE D/HH program, there had been no documented usage of Direct Instruction programs with deaf and hard-of-hearing students.

Six years ago, the OCDE D/HH program made a radical change in instruction for 90% of their high school students in self-contained classrooms. This change involved using Direct Instruction programs to teach comprehension, spelling, and language. In previous years, OCDE D/HH achievement scores were typically above the national average for the deaf and hard-of-hearing population, but those scores represented the composite of both mainstreamed and self-contained students. When the data for self-contained students were analyzed separately, it became apparent that their performance was plateauing at the lower levels expected for self-contained students. Plateauing achievement trends, conflicting concerns between IEP mastery and achievement levels, and parental dissatisfac-

tion with student performance were at the heart of this change in teaching methods and materials. By the end of the 96–97 school year, data were available for two cohorts of students who had been involved in the program for four years. The results show that the approach has produced greatly improved student achievement.

Program Description

Direct Instruction programs differ from conventional programs in what is taught and how it is taught. The development of critical skills, concepts, and processes in each subject area are meticulously mapped out. Every necessary sub-skill or concept in a subject area, regardless of how small, is directly and precisely taught and consistently reviewed. Each skill is taught in a manner that allows it to be carefully blended into more complex skills and concepts. The amount of teacher direction and prompting is carefully controlled so that students become increasingly independent in applying the skills. Students learn nearly all new skills in teacher-directed situations. Students apply the skills orally, and then practice the skills independently.

The most observable aspect of Direct Instruction programs is how they are taught. Students are taught in small homogenous groups. Student responses are very frequent and usually done in unison on a teacher's signal. This increases the practice each student gets and makes the most efficient use of instructional time. Individual responses are commonly used to check if particular students have mastered a skill or concept. The pacing is rapid in order to keep student attention. The performance criterion for each exercise is high.

The specific Direct Instruction programs used at UHS are the Science Research Associates *Corrective Reading Series—Thinking Basics, Comprehension Skills*, and *Concept Applications* (Engelmann, Osborn, & Hanner, 1989), the *Morphographic Spelling Series—Corrective Spelling Through Morphographs* (Dixon & Engelmann, 1979) and *Spelling Mastery Level F* (Dixon, Engelmann, Steely, & Wells, 1990), and the *Expressive Writing Program, Levels 1* and *2* (Engelmann & Silbert, 1985). Except for *Expressive Writing*, all the programs used are designed as remedial programs for use with hearing students in approximately grades four through eight.

> *The development of critical skills, concepts, and processes in each subject area are meticulously mapped out.*

The problem skill areas that *Thinking Basics* addresses for hearing students are the same problem skill areas that most deaf students have. These problem areas include poor argument and logic analysis skills, deficits in vocabulary and common information, poor skills in following directions, and poor statement analysis skills (which are particularly troublesome for students trying to read and retain information). The specific skills taught in *Thinking Basics* include analogies, deductions, inductions, statement inference, basic evidence, and/or, true/false, synonyms/opposites, classifications, definitions, descriptions, and basic information. Additional levels of the series build on these skills.

The skills that *Morphographic Spelling* effectively addresses for hearing students are many of the same skills important for deaf students. The most significant issue is that of having an effective rule-based approach that generalizes spelling beyond specific word lists. The benefit of the morphographic approach, in addition to providing a rule-based approach, is the potential impact to improve vocabulary knowledge, both for hearing students (Becker, Dixon, & Anderson-Inman, 1980; Chomsky, 1970; Chomsky & Halle, 1968; Dixon, 1991; Simon & Simon, 1973; Venezky, 1970), and for deaf students (Hanson, 1993; Hanson & Feldman, 1991; Hanson, Shankweiler, & Fischer, 1983; Hanson & Wilkenfeld, 1985). In addition, *Morphographic Spelling* effectively deals with the problems of adequate practice, corrective feedback, and cumulative review. Additional levels of the series build on these skills.

The *Expressive Writing* program provides a sequence of basic skills and activities that are common to all expressive writing. Students learn to write basic declarative sentences before learning how to modify those sentences with the use of clauses, pronouns, and phrases. Skills include basic mechanics, sentence writing, paragraph and story writing, and editing.

Methods

The Orange County Department of Education Deaf and Hard of Hearing Program was established in 1977. It is a regional special day-class program encompassing grades 6 through 12 at Deerfield Elementary, Venado Middle School, and University High School in Irvine, California. All classes are located on public school sites within Irvine Unified School District. The 1996–97 enrollment was approximately 160 students. The ethnic breakdown is 42% Caucasian, 36% Hispanic, and 22% Asian. Approximately 40% of the students qualify for the free and reduced lunch program.

The 1996–97 OCDE D/HH instructional staff consisted of one FTE Mainstream Resource Teacher, one .6 FTE Career Specialist, 2.8 FTE Speech/Language Specialists, 15 teachers, 17 interpreters, and 17 instructional assistants. Non-instructional staff included one high school principal, one FTE psychologist, and one counselor, with secretarial, audiological, nursing, mobility, vision and APE services at each school.

The students involved in this study were those deaf and hard-of-hearing students at the University High School who were not mainstreamed (approximately 60%). Complete data were available for 15 students in the cohort that began in the 92–93 school year and 27 that began in the 93–94 school year. Data from students who began in the 91–92 school year (the first year of Direct Instruction) was too incomplete to include in the data analysis.

In the years 1991–93, all high school teachers of the mainstreamed students participated in the Direct Instruction implementation. In the remaining years, typically two or three teachers declined to participate. The turnover of teachers participating in the implementation has averaged one teacher per year.

In the fall of 1991, after approximately one week of inservice training, the UHS D/HH program began implementation of Direct Instruction in the areas of reading comprehension, language and writing. Some of the teachers began implementing Direct Instruction immediately while others held off for 3 to 4 months. Some of the teachers taught Direct Instruction every day, while others taught it only once a week or once every other week. During the first year, the teachers were monitored approximately once every two weeks by a Direct Instruction teacher trainer or the principal, who had also gone through the Direct Instruction training along with the staff. During the second and third years, teachers were observed approximately once a month. Training in subsequent years involved several days of after-school inservice training and one or two classroom observations, both done by teachers who had taught the program since its initial implementation.

Modifications

During the second and third year of implementation, teachers began to experiment with different aspects of the programs to make them more efficient with deaf and hard-of-hearing students. Some adaptations were made in how the programs were taught. Adaptations to the group response format were made to reduce off-task behavior. A group response from deaf/hard-of-hearing students involves signing/fingerspelling at different rates. Teachers developed several strategies for monitoring multiple rate responses, but frequent repetition of both group and individual responses was still necessary and required strategies for reducing off-task behavior during repeated responses. Additional modifications were made to provide more individual turns, to use more modeling of desired student responses, and to adjust the rate of student responses.

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The most difficult modifications in how the program was taught had to do with deciding which signing system to use. The OCDE D/HH program, like most, endorses Simultaneous Communication—signing and speech used simultaneously. However, there was confusion and disagreement over which signing system to use with the Direct Instruction programs. Research also is unclear on whether it is more effective to use American Sign Language (ASL) or some form of manually coded English (MCE) (Brasel & Quigley, 1977; Corson, 1973; Vernon & Kohl, 1971; Weisel, 1988). Although ASL can represent the entire range of language capabilities and constraints (Lillo-Martin, 1986; Padden, 1988; Padden & Perlmutter, 1987; Supalla, 1985), its utility in teaching English is very problematic, and its efficacy in doing so has not been formally evaluated. The attempts to force ASL into English grammatical form (ASL signs and invented forms representing affixes and other grammatical elements produced in English word order) have also been problematic and have not been rigorously evaluated. ASL and some of these MCE forms (SEE and CASE) omit function words, such as "a" and "the," and omit some affixes. Conceptual inaccuracies in some MCE forms present serious misconceptions when teaching about English syntax and semantics. In SEE II, the same sign can be used for very different concepts if that sign meets two of three criteria (written the same, pronounced the same, or signed the same), thus resulting in visual homophones. As a result of these criteria, the SEE II sign for dresser can refer both to a person or a piece of furniture.

Additionally, there has been criticism of MCE forms in general from ASL proponents—that MCE forms violate structural rules of ASL (Charrow, 1975; Marmor & Petitto, 1979), and that certain English elements are not learnable (Gee & Goodhard, 1985; Johnson, Liddell, & Erting, 1989; Supalla, 1991). The fact that many deaf adults are fluent in written English would discredit the latter claim. In relation to violating the structural rules of ASL, acknowledging ASL as a first and preferred language for the deaf does not lessen the need for an adequate internalization of the English language system in order to understand written English. Certainly there are violations of ASL structure in English, but students must be able to literally translate and remember English sentences in order to understand them, especially when dealing with such grammatical structures as similes and metaphors.

The approach taken by the teachers in the University High School study has been to utilize a combination of ASL and CASE. Each has specific strengths and weaknesses for representing and

explaining particular concepts and word functions in English. Some tasks, particularly in comprehension, require CASE for absolute word for word fidelity, while other tasks are more conceptual and can utilize ASL. If careful attention is paid to concept accuracy and sign consistency, ASL and CASE can be used effectively to teach English language skills while still maintaining the preeminence of ASL for general communication.

In addition to modification of how the programs were taught, modifications were also made in what was taught. Wording of student directions was changed to meet the needs of deaf and hard-of-hearing children. The most significant modification was generating and adding pre-lesson vocabulary lists for reading comprehension lessons in order to avoid time consuming vocabulary explanations in the middle of a lesson. Prior to entering the University High School program, the students had been exposed to differing amounts of instruction in ASL, CASE, and SEE II. Consequently, approximately five minutes of vocabulary work and review was needed at the beginning of each lesson to bring all students to a common level of fluency. This vocabulary component included ASL signs that were unfamiliar or difficult for the students (or teachers), invented signs (such as the sign for "morphograph"), and the unique signing utilization of CASE.

Results

Data for all students in the UHS D/HH program are from the Comprehensive Test of Basic Skills (CTB/McGraw-Hill, 1989). Although this is a commonly used test, it has not been normed for the deaf population. Comparisons in this section are made to the Stanford Achievement Test (The Psychological Corporation, 1989b), a similar test which has been normed for the deaf population. Results of tests of significance are only given for comparisons withi n the UHS D/HH population.

Performance Levels Attained

The usage of these Direct Instruction programs with deaf students produced grade-level gains greater than the average for students in self-contained classrooms. Twelfth grade students in self-contained classrooms who had spent four years in the program averaged 5.7 in reading comprehension, 7.0 in spelling, and 7.2 in total language. These grade-level averages are above the national averages for deaf students in self-contained classrooms by 2.8 years, 2.2 years and 4.4 years respectively (as reported by Holt, Traxler, and Allen [1992] of the Gallaudet Center for Assessment and Demographics[CADS]). The Direct Instruction averages are also above the CADS averages for all deaf and hard-of-hearing students (including mainstreamed) by 1.2 years, .9 years, and 2.7 years respectively. Figure 1 displays these results.

Gain Scores

Gain scores for students in the Direct Instruction programs were also greater than gains for the comparison groups. Compared to end-of-year testing in the 8th grade (baseline), 12th grade UHS students in self-contained classrooms averaged gains of 2.5 years in reading comprehension, 3.8 years in spelling, and 3.0 years in total language. Gains over the same period for CADS self-contained students were .0 years, 1.3 years and .0 years respectively. Gains for all CADS students (including mainstreamed) were .4 years, .9 years and .3 years respectively. Figure 2 shows these gain comparisons.

Importance of Teacher Training and Implementation

The importance of teacher training in Direct Instruction programs and methods has been noted in situations that require changes in classroom practices (Becker, 1986; Gage, 1985), changes in teacher attitudes (Gersten et al., 1986), and field-based experiences (Welch & Kulic, 1988). Of particular importance to implementing Direct Instruction programs is the observed difficulty of training teachers to implement good pacing (Gersten, Carnine, & Williams, 1982; Marchand-Martella & Lignugaris/Kraft, 1992). An additional concern in using Direct Instruction programs with deaf students is the burden placed on the teacher—having to watch five or more students signing and fingerspelling answers at different rates and having

Figure 1

Average grade level performance by grade in school and subject area for the Direct Instruction students for all deaf and hard-of-hearing students in self-contained classrooms.

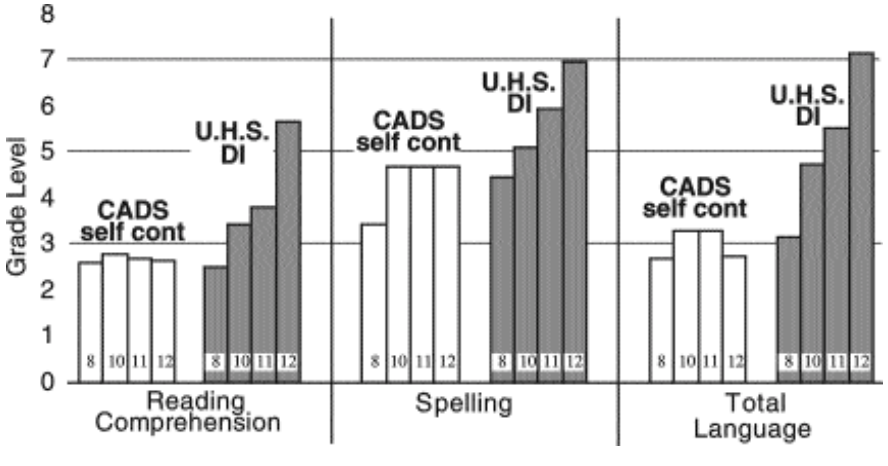
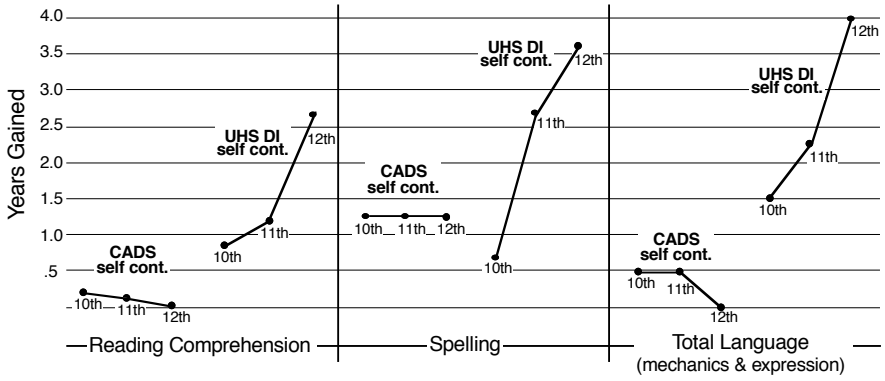


Figure 2

Average cumulative gains by grade level and subject area for Direct Instruction students and all deaf and hard-of-hearing students in self-contained classrooms.

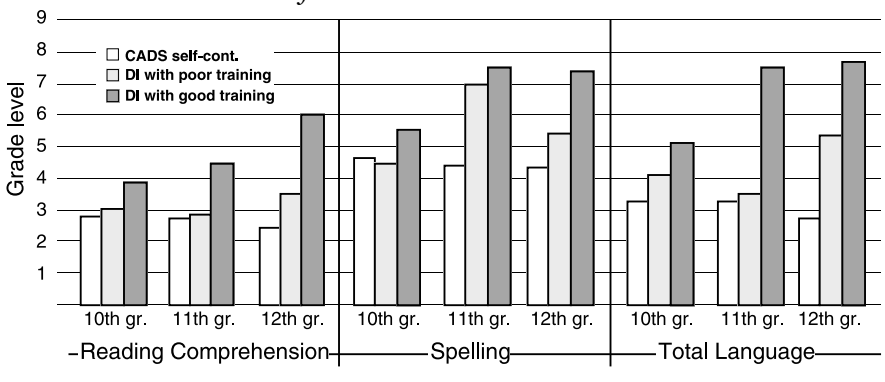


to read scripted instructional presentations and translate those presentations consistently to students in an English signing system. These additional burdens make training teachers of the deaf and hard-of-hearing to use these programs not only more difficult, but more important.

In the University High School study, teacher training and program implementation were critical variables. For years in which most teachers were not sufficiently trained (no inservice or preservice training or no follow-up observations), program implementation was weak (less than 50% of the teachers taught the DI programs three or more times per week); experimental students showed greater gains than 90–91 UHS students (baseline), but not at a significant level. For years in which teacher training and implementation met the minimum levels, experimental student gain scores were significantly greater than the 90–91 UHS students (.001 level). Over the last five years, when UHS students from well-implemented classrooms with well-trained teachers are compared to students from poorly implemented classrooms with poorly trained teachers, students from the well-implemented and trained classrooms always perform at a higher level (significant at the .02 to .001 levels). Figure 3 shows this comparison.

Figure 3

Average grade level performance by grade in school and subject area for Direct Instruction students with well-trained teachers, Direct Instruction students with poorly trained teachers, and for all deaf and hard-of-hearing students in self-contained classrooms.



Discussion

Although 12th grade students in the Direct Instruction programs perform much better than national averages, a great proportion of their gains come in the last year of instruction (11th to 12th grade). In the first two years of high school, the UHS students outperform CADS averages for self-contained classrooms but usually do not outperform CADS overall averages (including mainstreamed students). A great part of this trend is probably due to the fact that the UHS deaf and hard-of-hearing students typically complete less than one-half an instructional lesson each school day and are typically taught the Direct Instruction programs only three days a week. It is not uncommon for students to spend more than two years covering just the introductory level program in a series. The introductory levels of the programs typically focus on basic-level component skills. It is often not until the middle of the second program of a series that these component skills have been developed and practiced enough that they can be brought together into broadly generalizable operations. Many of the students involved in the UHS program do not get to these programs until sometime in their 11th grade year. Consequently, the full impact of the Direct Instruction programs is not as observable until the last year of instruction. By the end of 12th grade, students in the DI programs outperform the CADS overall averages for all deaf students.

A solution at the high school level is to increase the student's exposure to Direct Instruction to five days a week. Another perhaps more desirable solution might be to begin using the

Direct Instruction programs much earlier. To test this latter solution, a sample of both fourth grade and seventh grade students from UHS D/HH feeder schools will begin working with these same Direct Instruction programs during the 1997–98 school year.

As is apparent in Figure 3, teacher training and good classroom implementation (widespread usage at least three times per week) make an enormous difference in student performance. Initially, teachers complained that teaching DI programs seemed awkward, unnatural, robotic, and boring. They said there were too many hands to monitor for correct fingerspelling and signed responses. Many did not see the point of utilizing a scripted lesson presentation. For all teachers, there were problems adapting directions and tasks written for hearing students. Generally, teachers felt it was not until the third year of the implementation that sufficient modifications had been made to make the DI programs work smoothly and most effectively.

Although program and technique modifications have solved many of the original training and implementation problems, there remains the significant problem of having all teachers, especially new teachers, consistently follow the common set of practices that has been developed and that has proven effective. This point is particularly true for the conventions regarding when to use ASL and CASE and what sign conventions to use for many of the vocabulary words. These are critical aspects because they directly affect lesson pacing and mastery.

The implementation of Direct Instruction programs, whether with hearing or deaf students, requires significant changes in how teachers teach. Implementations with teachers of the deaf and hard-of-hearing require additional modifications and additional emphasis to ensure consistency of signing conventions. The data show the effect of good training and implementation. To ensure good training and implementation with teachers of the deaf and hard-of-hearing, on-going teacher observation and training are needed. A preliminary research study has recently been completed which shows the feasibility of using a computer teaching and training program to provide such training while simultaneously presenting lessons to the students.

Direct Instruction programs in comprehension, spelling, and writing have been shown to produce considerable test-score gains for deaf and hard-of-hearing high school students in self-contained classrooms.

Conclusion

Direct Instruction programs in comprehension, spelling, and writing have been shown to produce considerable test-score gains for deaf and hard-of-hearing high school students in self-contained classrooms. To make these programs work efficiently with deaf and hard-of-hearing students, adaptations must be made in how the programs are taught and how to most effectively combine usage of ASL and CASE. Teacher training and widespread consistent usage of the programs are necessary to obtain the greatest impact. Although the high school student gains reported in this study are impressive, earlier and more consistent use of these programs and techniques has the potential of producing students who can attain much higher levels of performance.

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Author Note

The University High School Program utilizing Direct Instruction is currently in its eighth year and has expanded to include similar programs at feeder schools. An ongoing research study, funded by NICHD, is examining the efficacy of a computerized teacher training and lesson presentation program.

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