

EFFECTIVE School Practices

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FOCUS: SERVING NON-ENGLISH SPEAKING CHILDREN

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Philosophy of *Effective School Practices*

1. Teachers are responsible for student learning.
2. The curriculum is a critical variable for instructional effectiveness.
3. Effective teaching practices are identified by instructional research that compares the results of a new practice with the results of a viable alternative.
4. Experiments should not be conducted using an entire generation of Americans. The initial experimentation with a new practice should be small in scale and carefully controlled so that negative outcomes are minimized.
5. A powerful technology for teaching exists that is not being utilized in most American schools.

Effective School Practices is published quarterly by the Association for Direct Instruction. The mission of the Association for Direct Instruction, as stated in the by-laws, is to promote the improvement of educational methods.

The name *Direct Instruction* originated with the highly effective instructional model first developed by Zig Engelmann in Project Follow Through during President Johnson's Great Society legislation. Although the evaluation of Project Follow Through showed the Direct Instruction model to be far more effective than the other models on every identified outcome, education in America remained generally unchanged.

A few educators, impressed by the extraordinary results of the original Direct Instruction model and the programs that were developed as DI evolved, formed the Association for Direct Instruction in 1981.

Today, this organization is a vanguard in promoting school practices that have been validated as effective through the use of the scientific method in educational research.

The Association for Direct Instruction was incorporated in 1981 in the state of Oregon for educational purposes. ADI is a nonprofit, tax-exempt

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From the Field

A Story Worth Repeating

[Editor's note: The following is a posting from an Internet education newsgroup (education-consumers@tricon.net). The author is responding to another member's claim that Direct Instruction is appropriate only for learning disabled or low-income students.]

I know that I've said this before, but because this parent slammed DI reading methods, I'll say it one more time. As an informed consumer, one summer I chose to use the DI reading program to teach my young daughter to read when she was four years old. I used the Fast Track program and by the end of the summer, Simone was fluently decoding and reading books that had words that she could sound out. Simone looked forward to the lesson each day and often wanted to do more than one. I was never able to skip a day because she would remind me that we hadn't done our reading. Simone is now about to turn twelve years old and has remained an avid reader. Over the years we have become aware that she is a gifted student which was exemplified by her reading novels by Jane Austen, and 1984 last year in fifth grade. In sixth grade she mostly reads adult literature. Her teacher always expresses amazement after Simone takes achievement tests without missing any answers. I brag in this somewhat obnoxious manner to point out that DI reading techniques are as appropriate for very bright students as they are for special education learners. Just as with any other instruction, if the pace of the lessons is fast forwarded a bit, the gifted learner is challenged and probably more motivated, but that principle holds true for any curriculum including Saxon Math, Open Court Phonics, etc. etc.

Mary Damer
St. Charles, Illinois

FROM THE FIELD

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English Not Taught Here

Hal Netkin

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PERSPECTIVES

For decades, bilingual education has been praised as a godsend for schoolchildren who are not proficient in English. In California, 1.3 million public school children, 23% of the total, fit that description; over the past decade the number has more than doubled. California's future depends on these children becoming fluent in English. Yet each year only 5% of the state's public school students not previously proficient in English are found to have gained English proficiency.

I had my own taste of bilingual education in 1989, when I began renting part of my home to a Mexican family. The youngest of the five children, Ulises, was then in the second grade at Valerio Elementary School in the Los Angeles community of Van Nuys. The school branded him a slow learner, which puzzled me, since Ulises seemed to show above-average intelligence at times. What's more, Ulises spoke English better than he did Spanish. Since both of Ulises' parents worked away from home and I worked out of the house we shared, I agreed to be listed as a contact for times when teacher-parent communications were necessary.

Segregating Latinos

One day I received a call from the school's bilingual coordinator, a teacher whose job it was to sign up children for bilingual classes. She told me that Ulises was not ready for transition to English-only classes, and she asked for my approval for him to continue in a bilingual class in the next grade. But Ulises' English was better than his Spanish, I responded. She insisted, however, that he would do better in the bilingual class. To settle the matter, she invited me to observe the bilingual class to see "how beneficial it is."

I spent half a day in the class. Here's how it worked: A group of Anglo, Asian, Armenian and other children labeled "English-proficient" sat on the left side of the class, while an all-Latino group of "native-Spanish-speaking" children sat on the right. An English-speaking teacher stood in front of the group on the left, which read from books in English; a Spanish-speaking teaching assistant stood in front of the group on the right, which read from books in Spanish. As the primary teacher instructed in En-

glish, the assistant translated the lessons into Spanish. At times, the groups were instructed separately.

I was outraged. Why don't Armenian, Vietnamese, Haitian, Chinese and all other children whose "native" language is not English need bilingual education? The message to the Latino children was clear: that they are inferior in intelligence to other ethnic groups. I refused to approve bilingual education for Ulises, and he went on to become a perfectly normal student without it.

Many people believe that "bilingual education" entails learning two languages. Instead, as it's practiced in most U.S. public school systems, it would be more accurately called "primary language" education. The theory is that if students are taught all subjects in their native language at first, they will learn English better and faster in the long run. Bilingual-education advocates will also tell you that even if students in bilingual education are not gaining in English, they are gaining in self-esteem, which will give them the confidence they need to catch up later. These claims, of course, are absurd. The students will gain whatever added "self-esteem" they need when they develop proficiency in English—the language in which their peers are learning, and the language that they'll need to succeed in the U.S.

It's no surprise that most Latino parents are opposed to bilingual education as soon as they find out what it is. Indeed, 83% of Latino respondents to a *Los Angeles Times* poll last month said they oppose bilingual education. One of the first things parents grasp is that bilingual education is not English-as-a-second-language instruction. ESL students' native languages vary, but they all learn English together. ESL teachers are not required to be bilingual, because ESL is taught not by translation but by immersion in English. My wife, Ines, knew very little English when she emigrated from Mexico in 1989. After two years of ESL classes at night, however, she became fluent.

When asked why, if ESL is so successful with adults, it isn't used with children, most ESL teachers simply repeat the dogma of bilingual education. The Los Angeles Unified School District, for instance, says that bilingual students who first master Spanish, then make a transition to English, do at least as

well academically in the long run as most of their English-only counterparts. Yet there is no research suggesting this conclusion.

What research does indicate is that too many Latino students end up not speaking either Spanish or English well. Scores on the Comprehensive Test of Basic Skills show that California fourth-graders who move to English-only classes from Spanish instruction are hopelessly unable to perform well in English. The state's Latino students have consistently scored the lowest of any ethnic group on the Scholastic Assessment Test, and have the highest dropout rate, 40%. Figures from California's Department of Education show that while the number of the state's public school students in bilingual programs (or certified eligible for those programs) more than doubled from 1981 to 1993, the percentage of these making it into English-only classes dropped by more than half.

Why do California's bilingual educators persist? Perhaps the most powerful reason is money. Bilingual education is a \$500 million-a-year industry in California alone. The size of budgets designated for bilingual education depends on how many students

are enrolled in the program, giving educators at all levels a big incentive to sign up ever more students for bilingual programs.

End the Boondoggle

Where will it end? A grass-roots campaign called English for the Children has been circulating a petition that would let California's voters curtail bilingual education in the state's public schools. If the petition receives the signatures of 433,000 registered California voters by Nov. 13, the state will hold a referendum in June 1998 on the group's proposed initiative, which would require that all public school instruction be conducted in English. Exceptions would be made for students who are already proficient in English, and for those whose parents can demonstrate that bilingual education would help them learn English better. A decade ago, 80% of the Los Angeles teachers' union voted against bilingual education—teachers presumably realize that it wastes money the schools could be spending elsewhere. It's time that parents of bilingual students have the chance to end this boondoggle and get their children on the road to English proficiency, the quickest path to success American-style.



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Plan now to attend an ADI sponsored Conference.

Dates and locations listed on page 29

*Register as a Referenced Direct Instruction
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Daily News

Los Angeles, California

Monday, October 6, 1997

Bilingual Ed: Is It a Flop?

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Too Few Are Making Transition

Paul Hefner
Daily News Staff Writer

For Elizabeth Chavez, four years of bilingual education meant taking a seat at the back of the classroom with other children who couldn't keep up with the work.

Now a high school senior, she recalls how she knew little English as a fourth-grader at Ninth Street School in downtown Los Angeles—and how lost she felt as she struggled to understand her first English-speaking teacher.

The 17-year-old needs just four words to sum up her bilingual education—one for each year spent learning to read and write in Spanish rather than in English.

"It was lost time," she said. "I could have been learning English."

Today, many parents of children at Ninth Street agree with Chavez. They staged a boycott last year to demonstrate opposition to bilingual education and have joined in an unlikely alliance with conservatives statewide to abolish such programs.

Many cite figures for the Los Angeles Unified School District to prove that bilingual education is a flop.

LAUSD has the state's largest share of non-English speaking students, with nearly half of its 309,802 students speaking little or no English. Fewer than 1 in 10 made the transition to an English program last year.

A campaign is under way to place an initiative on the June ballot that would impose English-only instruction in all public schools. It would cap long-simmering opposition to the state's 25-year preference for teaching non-English speakers in their native languages.

Defenders of bilingual education contend that parent opposition is small and

isolated. Despite difficulties of carrying out the program, they argue that dismantling it would be a huge step backward for the 1.3 million California children whose first language isn't English.

"Anyone who has looked into it feels that bilingual education needs to be improved. But it's not as simple as changing a tire, it really isn't," said Assemblyman

Tony Cardenas, D-Panorama City. "We have to figure out why it isn't working very well, but we can't abandon it."

A disservice

Initiative supporters say bilingual education has been a failure kept alive by

See **BILINGUAL**/Page 4

Students caught in cross fire over pros, cons of program

Sherry Joe Crosby
Daily News Staff Writer

PACOIMA—Playtime is over for the first-graders in Marguerite Wolfe's class at Beachy Avenue School, and everyone has gotten busy at class work.

Hunched over their desks, they concoct stories about *dinosauros* terrorizing tiny towns while other pupils assemble words from the Spanish phonetic alphabet or listen to stories.

Like many bilingual education programs in the Los Angeles Unified Public School District, the class is taught almost entirely in Spanish. Wolfe said she tries to use English when she can, but relies on Spanish when students don't understand directions.

Whether bilingual education works on a systemwide basis is much in dispute and now, after years of debate, the debate is heating up.

A proposed statewide initiative would require all public school instruction to be conducted in English—unless parents demonstrate their children could learn faster through alternative techniques such as bilingual education.

At Beachy Avenue and other San Fernando Valley schools that offer bilingual education programs, the proposed measure is viewed with dread because some fear students will be forced into English-only classes before they're ready.

"It may create holes in children's education," said Ronni Ephraim, principal of Limerick Avenue School in Canoga Park. "They may be missing out on important skills and concepts."

Bilingual ed gets F

Supporters of the "English for the Children" measure, which still needs more than 400,000 signatures to qualify for the June 1998 ballot, say bilingual programs are failing miserably.

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BILINGUAL

bureaucrats and politicians unable or unwilling to acknowledge their mistake.

"What they're doing is, they're relegating a generation of poor Latino children to careers of nothing but working in sweatshops, cleaning offices or selling tamales on the corner," said the Rev. Alice Callaghan, director of a community center near Ninth Street School.

Callaghan is in the eye of the new storm brewing over the issue. An Episcopal priest, she runs non-profit Las Familias del Pueblo community center on the edge of Skid Row, providing after-school care for children whose parents work in the garment factories nearby.

Years of watching the children fail to progress convinced her and others the program at Ninth Street wasn't working. Parents pressed school officials for changes, only to be ignored.

"They never took us seriously," she said. "They never took the parents seriously. I probably would have had better satisfaction talking to the tires on my car."

Crippling effect

That changed with the February 1996 boycott. District officials softened their stance, making it easier for parents to opt out of Spanish instruction. News coverage attracted the attention of Bay Area computer executive Ron Unz, who had once tried to challenge Pete Wilson for the Republican nomination for governor.

Unz crafted the "English for the Children" initiative in the wake of the Ninth Street boycott. He claims he has already collected two-thirds of the signatures needed to put the measure on the June 1998 ballot.

And last weekend, the proposal won the endorsement of the state's Republican Party, at the urging of Assemblyman Tom McClintock, R-Granada Hills, despite opposition from party leaders.

"In a nutshell, bilingual education is a racially segregated program which now traps more than one-fifth of California's children," McClintock said. "It has a 95 percent failure rate. It cripples Hispanic children."

Few transitions

Even supporters concede that too few children make the transition from bilingual to mainstream programs each year.

Statewide, the number of children exiting bilingual programs has remained all but unchanged, even as the number of non-English speaking children has skyrocketed.

Callaghan claims the slow turn-over rate shows statistically what she's seen for years among children in the program: They're staying in the program a long time, and leaving with very little knowledge of English.

"There is nothing bilingual about this program, and there never has been," she said. "They're teaching them to read and write in Spanish."

But because there are too few Spanish-speaking teachers, the district tries to fill the gap with classroom aides or instructors with emergency credentials. In many cases, they're not up to the task, which means the children fall further behind academically, Callaghan said.

Spanish programs tend to be weaker in higher grades, leaving children trapped in a Catch-22—desperate for English instruction but unable to meet the academic qualifications to leave the bilingual program.

"We're speaking from the trenches, and we can tell them it doesn't work," she said. "Our parents know it doesn't work."

Overhaul urged

The state's Little Hoover Commission reached much the same conclusion in a 1993 report that called for a shift away from the state's emphasis on primary language instruction and an overhaul of bilingual programs statewide.

"The effectiveness of California's efforts to teach English learners can be gauged by the low numbers of students who are reclassified as fluent English speakers, the high dropout rates, the lack of college applications and the dissatisfaction often expressed by parents, teachers and administrators," the commission's report said.

"All point to a system that has failed to meet the needs of these at-risk students."

But pinning down the problems with the program is difficult because it comes in so many forms.

Alternative education

The state Department of Education estimates that a third of non-English

speaking students are receiving instruction in their native language. Another third are in specialized English programs for students not fluent in English. The rest are in a hybrid of the two, a mix of specialized and mainstream programs, or nothing at all.

Some 12 percent of non-English speaking students statewide get no special services, including 1 percent whose parents have opted out of bilingual education entirely, state officials said.

To Cardenas, those numbers suggest that if any program has failed, it's those that emphasize English.

"Two-thirds are already in the setting the Unz initiative demands," he said. "It's 'English only' that's not working."

Some proponents of bilingual instruction contend that there's too little hard data to know how best to fix the system—or whether it's broken at all.

"I don't know what exactly is fundamentally wrong. Until we know that, are we in search of a solution where there's no problem?" asked Dolores Sanchez, a representative of the California Federation of Teachers. "There are some districts doing some really wonderful things. Some districts are having wonderful successes. Why throw the baby out with the bath water?"

Too few teachers

Critics and advocates agree there are too few qualified teachers capable of conducting class in any language but English. Even after a major recruiting drive, only about 8,100 of the 31,000 teachers at Los Angeles Unified have either a bilingual credential or have reached the district's highest fluency standard.

That means the district is short more than 700 bilingual teachers—even after paying teachers a \$5,000 annual bonus for speaking a second language.

Bilingual advocates contend the state needs to do more to train teachers to use a second language in their classrooms. But critics claim it's time to try another approach.

"If we still have a shortage 25 years after instituting the program, when do we think that's going to get any better?" Callaghan said. "They give emergency credentials to people who can't teach at all, but because they can speak Spanish they are in a classroom teaching children—in poor schools that desperately need to hire experienced teachers."

Others are equally adamant that curtailing instruction in other languages will only leave more students lost.

"We believe the pedagogical premise that a child cannot learn the content of any curriculum when it is taught in a language he cannot understand," Sanchez said.

That premise—that a new language is learned best when a child already has a base of knowledge in their native language—has driven bilingual programs across the state for years.

"You build on what you already know," said Carmen Schroeder, assistant superintendent for language acquisition at L.A. Unified. "If I speak to you in French, you're just going to hear French noise. When you know a primary language, you're able to transfer those skills to another language..."

Deemed a failure

Critics say those theories have little value in the real-world experience of Los Angeles, where the dropout rate for Latino students is disturbingly high.

"It has failed," Callaghan said. "Everybody knows it has failed. Are we going to tinker on the edges and sacrifice another generation of kids?"

In Sacramento, a complex political dynamic has created a virtual paralysis over the issue. The state's law governing bilingual education technically expired in 1987, though officials have largely kept the regulations governing the programs in force.

But repeated attempts to enact a new bilingual education statute have been sidelined in the Legislature under pressure from bilingual advocates. Assembly Speaker Cruz Bustamante kept the issue bottled up in committee this year, although he has agreed to allow the issue to come to a vote in January.

It's been a particularly difficult issue for Latino lawmakers, some of whom see bilingual education as a hard-won victory. As a result, they're reluctant to see such programs weakened.

Callaghan found that out during the parent boycott at Ninth Street.

"The only negative phone calls we got came from Latino politicians," she said. "They said, 'You shouldn't be talking publicly about it. It took so long to win this. If we lose this, we lose everything.'"

Unz said some of the intransigence is an attempt to save face.

"Human beings hate to admit that they're wrong, and politicians are more prone to that than anyone," he said. "It's tough to admit that you were wrong for 20 years."

But Cardenas claims the failure has been to give bilingual programs the resources they need to succeed.

"When we still have teacher shortages after 20 years, that tells you people have dropped the ball at every level," he said.

He and others contend that Unz's initiative isn't the answer. The initiative calls for most non-English speaking children to be placed in a short-term program to build English fluency and then transferred into a regular classroom. Parents could request native-language instruction under certain conditions, but they would need the approval of school officials.

"Mr. Unz has thrown all pedagogy aside," Schroeder said.

Racial undertones?

With the initiative coming on the heels of voter-approved ballot measures to limit services to illegal immigrants and to eliminate affirmative action, some fear that the Unz initiative merely sets up California for another racially charged election season.

"We have to get beyond these battles," Schroeder said. "It's a shame that we're fighting with each other over things that should be common sense."

Unz, who proposed Proposition 187, wants to keep debate focused away from racial politics.

"I want to make it clear that this is not 'son of 187,'" he said. "It simply says that little children should be taught English when they go to school."

That sounds good to Chavez, who despite her strong grades at Jefferson High School scored just 650 out of a possible 1600 on her last attempt at the Scholastic Aptitude Test. She plans to attend community college after graduating.

"I have to start small," she said.

Meanwhile, he 7-year-old brother is learning English this year at Ninth Street. He's already speaking some English at home, and prefers English television to the Spanish shows his mother watches.

"If you start teaching them English in kindergarten, they pick it up quick," she said.

SPANISH

"It's not teaching children English," initiative spokeswoman Sheri Annis said. "The current system is a complete disaster. It has a 95 percent failure rate."

Statewide, bilingual education programs shift only 5 percent of their students into English-only classes each year although the number of students entering such programs has more than doubled in recent years.

At Beachy Avenue, 35 of 484 limited-English speakers were redesignated as fluent English speakers and placed into English-only classes during the 1996-97 school year. An additional 35 were placed in sheltered English classes where English is the primary language of instruction but instructors speak Spanish in cases where students may not understand an assignment.

Of the 35 students who were redesignated as fluent English speakers, 14 were in fifth grade; 12 in fourth grade and nine in third grade, school officials said.

Principal Richard Liroy said the redesignation rate is misleading because it is based on *all* limited-English speakers, most of whom are only beginning a five-year transition into all English classes.

"What they should really look at is students ready to transfer," he said. "My kindergartners, first and second graders shouldn't be counted because they're not ready to transfer."

Districtwide, it takes the average L.A. Unified student five to seven years to transition out of a bilingual program into an English-only class, said Toni Marsnik, coordinator of the district's Language Acquisition Curriculum Development Branch.

Guidelines call for elementary school students to move out of bilingual programs within five years. Middle school and high school students are to be in English-only classes within three years.

English first

Bilingual education opponents say that's too long to transition students into regular classes. The initiative provides for a one-year English immersion program before mainstreaming.

"This is an English-as-soon-as-possible initiative," Annis said. "One year with students separated from mainstream English classes and taught English is enough to enter mainstream classes."

While it takes two to three years to learn conversational English, bilingual supporters said it takes about five years to seven years to fully master a language.

"We can learn conversational English in two to three years and we sound pretty proficient," Marsnik said. "To compete in the classroom with academic materials, using textbooks, taking tests—that takes a little bit longer."

Under the district's basic program, bilingual education students receive most instruction in their primary language coupled with English lessons. By the time a student enters fifth grade, he should receive all instruction in English. The reason why some students are mainstreamed later than fifth grade is that they may have entered the school system late or switched schools, delaying their progress, Marsnik said.

Bilingual ed defended

Advocates say such an approach gives limited-English speakers strong literacy skills in their primary language without letting them fall behind in math, reading and other core subjects.

"We need to recognize that learning a new language is a process," Marsnik said.

Nonsense, opponents say.

Fifth-grade teacher Doug Lasken said pupils in primary grades—kindergarten through second grade—can quickly grasp English without jeopardizing other academic subjects.

"The kids I knew were teaching themselves English and were as quick as any kids in learning a language," said Lasken, who teaches at Ramona Elementary School in Hollywood and recently submitted a referendum to United Teachers Los Angeles seeking support for the statewide measure. "The idea that kids will fall behind is simply not an issue."

Alarming dropout number

Opponents blamed bilingual education for the district's high dropout rate among Latinos. Of 13,704 high school dropouts in the 1995-96 school year, 9,186 or 67 percent were Latinos.

"By the time they graduate from school they're illiterate in two languages," Annis said.

Bilingual supporters say too often students are plucked from bilingual education programs before they are ready for the rigors of an English-only class, effectively handicapping them for the rest of their

school careers.

"Children are ripped out of the program," said Gioconda Hawkins, a bilingual kindergarten teacher at Limerick Avenue School. "They can't reason or internalize in English...Then they don't have a good foundation in either language."

Advocates say that qualified bilingual teachers are hard to come by, forcing many schools to rely on classroom aides and teachers with emergency credentials.

Of 14 bilingual education teachers at Beachy Avenue, nine are certified, four are classroom aides, responsible for primary instruction, and one teacher has an emergency credential, Liroy said.

"The sheer numbers make it difficult to find enough qualified teachers, and the class-size reduction program only exacerbates it," he said, referring to Gov. Pete Wilson's call for 20 students per teacher in kindergarten through third grade.

Cecilia Mendoza is adamant that her four children enroll in English-only classes.

"It's better for my children," said the Canoga Park mother, who fears that her children will lag behind their peers if they enter a bilingual class.

"This is the United States, and they speak English. Spanish is OK at home, but in class, it's English," she said.



The Language Minority Student and Special Education: Issues, Trends and Paradoxes

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Abstract: Because of immigration pressures, the classrooms of many teachers include students from language-minority groups; these teachers often turn to special education for assistance. This article examines key issues and tensions in the areas of referral and special education instruction for these students. Potential solutions derive from two sources: first, the increasing consensus regarding effective approaches to bilingual education; second, the growing belief that these students need both systematic instruction in academic skills and a more "natural" approach to language to promote comprehension and use of English. The article discusses the collaborations needed in the fields of learning disabilities, bilingual education, and special education.

RESEARCH

The current wave of immigrants to the United States is the largest in history (U.S. Bureau of the Census, 1990). Mexican immigrants over the past ten years constitute the largest population migration from a single country in U.S. history, doubling in number from 1980 to 1990; currently there are 4.3 million. The total number of Hispanic immigrants (from Mexico and other parts of Latin America) in the U. S. grew by 2.5 million over the past decade, a 17% increase (De La Rosa & Maw, 1990). In 1982, only 1 in 10 children in U.S. schools was Hispanic, but this ratio will be approximately 1 in 4 by the year 2020 (Pallas, Natriello & McDill, 1989).

The educational plight of immigrant Hispanic students is a national concern (Suro, 1990). Their rate of grade retention, for example, is extremely high. One in four Hispanic eighth graders, significantly above the national average, has repeated one grade. More importantly, 15.2% of the Hispanic eighth graders sampled by De La Rosa & Maw (1990) had been retained at least twice during their school careers—even though researchers have shown that grade retention is a particularly ineffective means of dealing with learning or motivational problems (Allington & Mc Gill-Franzen, 1989). Hispanics have the highest dropout rate of any ethnic group in the United States. Only 51% of Hispanics age 21 and over possess a high school diploma compared to 63% for African-Americans and 77% for whites (De La Rosa & Maw, 1990).

Some of the recent immigrants—from Mexico, Central America, Cambodia and other parts of Southeast Asia—have had very little formal school experience (Foster, 1980; Kleinman & Daniel, 1981; Maingot, 1981; Marx, 1981). In many cases, their parents have also had minimal schooling, and students' home exposure to print materials may be

The educational plight of immigrant Hispanic students is a national concern. Their rate of grade retention, for example, is extremely high.

quite limited. A substantial proportion of these children will likely perform poorly in school unless school programs are enhanced to meet their needs (Goldenberg & Gallimore, 1991; Reyes, 1992; Teale, 1986). This finding appears to be supported by data from the 1988 National Assessment of Educational Progress. Of the Hispanic eighth graders in the lowest quartile on the reading test of the National Assessment of Education Progress, almost half had parents who had not completed high school (De La Rosa & Maw, 1990).

This combination of educational and demographic factors places tremendous demands on schools in such states as California, New York, Texas and Florida, and large cities like Chicago and Phoenix,

which have large numbers of students from language minority groups. Many smaller communities that have increasing numbers of students from language minority groups are experiencing similar pressure ("Percentage of Foreigners," 1992). Experts project that these demographic trends will accelerate in the next 10 years (Pallas, et al., 1989).

In response to these phenomena, many classroom teachers—particularly in cities and states with large numbers of recent immigrants—have become, often by default, teachers of students for whom English is a second language. Recently, we interviewed educators—special education directors, bilingual education coordinators, principals, and classroom teach-

Many teachers, confronted with a struggling student from a language minority group, are baffled by the student's seemingly unpredictable rate of academic progress. Often these teachers turn to special education for assistance...

ers in a large, urban district with a substantial proportion of students from language-minority groups—about perceived problems and policy issues (Gersten, 1991). These educators emphasized the seriousness of the many problems facing classroom teachers, severe personnel shortages, and the uncertain and unclear role of special education in providing solutions. The interviews verified published reports (Baca & Almanza, 1991; Gold, 1992) of severe shortages of adequately trained personnel in both special and general education.

Many teachers, confronted with a struggling student from a language minority group, are baffled by the student's seemingly unpredictable rate of academic progress (Gersten, Woodward & Morvant, 1992). Often these teachers turn to special education for assistance because they are unsure of which level of conventional English language curriculum to use and how to adapt this curriculum to meet the student's needs. They are also uncertain about how to determine whether bilingual students are experiencing problems due to learning disabilities or due to their limited comprehension of the English language.

Yet it is unclear how useful special education can be, because very few special educators are bilingual and have not been trained in second language instructional techniques. Wilkinson & Ortiz (1986)

documented that few students from language-minority groups in special education made significant academic progress over a 2-year period. On the average, they showed no growth in reading and actually showed a significant drop in test scores on other cognitive and academic measures.

Rarely is meaningful assistance provided to special education teachers faced with providing second-language instruction (Baca and Cervantes, 1989). Figueroa, Fradd, and Correa (1989) concluded that there is not

a substantive body of empirical data on actual, well-controlled interventions. Bilingual special education does not yet have this body of knowledge [on improving the academic abilities of language minority students with learning disabilities.]" (p. 17).

Often, the services offered are ad hoc, such as providing an untrained tutor who knows the native language but has no teaching experience to solve the problem. As Ruiz (1989) noted: "the wrongs done to... language minority students in special education are exceptionally severe: misidentification, misplacement, misuse of tests, and poor academic performance within special education" (p. 139).

This article discusses some of the central tensions in referral and instruction in bilingual education and special education that engender such severe commentary. First, we discuss some of the inadequacies in the assessment and placement of students from language-minority groups (Figueroa, 1989; Ortiz, 1988; Ruiz, 1989; Wilkinson & Ortiz, 1986) that have led, paradoxically, to the existence in some communities of overrepresentation of students from language minority groups in special education, and underrepresentation in others.

Second, we address the growing awareness that research must go beyond establishing valid assessment and placement procedures and move towards the development of effective and viable instructional strategies for this unique group of students. To generate such a knowledge base, educators must confront an array of these complex issues, not only in the field of special education, but also in second-language instruction. Clearly, we need to consider more fully the differing approaches to bilingual education and their implications for special education services. In addition, we need to explore the implications of relevant issues from the field of special education, particularly the tension between the skills-based/behavioral/ direct instruction models of instruction and more process-oriented approaches (Cazden, 1992; Goldenberg & Gallimore, 1991; Palincsar & Klenk, 1992; Reyes, 1992).

Third, we explore some potential solutions, based on a synthesis of the work of several prominent researchers in the field (Arreaga-Mayer, 1992; Chang, 1992; Moll, Estrada, Diaz, & Lopes, 1980; Rueda, 1990; Ruiz, 1989), and on the preliminary findings from our own observational research (Campbell et al., 1993; Gersten, 1991; Gersten & Jiménez, 1992; Woodward & Gersten, 1992). Our recent research (Campbell, Gersten, & Kolar, 1993; Gersten & Jiménez, 1992; Woodward & Gersten, 1992) involved more than 200 hours of classroom observations in five elementary schools serving students from language-minority groups in two states. The research, conducted over a two-year period, focused on students considered at risk for school failure or in need of special education services. We supplemented observations with interviews of teachers, students, parents and administrators.

We titled this article "The Language Minority Student and Special Education" because little interface exists between the special education community and professionals involved with teaching students from language-minority groups. (There are, of course, several marked exceptions such as the work of Baca & Cervantes [1989], Yates & Ortiz [1991], Fradd [1987], Figueroa, Rueda [1990], and Miramontes [1991].) We need to merge these two bodies of professional knowledge and research. This article is an attempt to begin this process.

Coexistence of Overrepresentation and Underrepresentation of Language Minority Students in Special Education

The related issues of misidentification and misplacement of language minority students into special education has received the most attention in the research literature. Research documenting recurring severe problems (Chang, 1992; Figueroa, 1989; Mercer, 1973; Mehan, Hartwick & Meihls, 1986; Moecker, 1992) has led to a focus on the accurate assessment of students from language minority groups to distinguish those who are truly in need of special education services from students who are not successful in school due primarily to limited English-language capacity (Figueroa, Fradd & Correa, 1989; Mercer & Rueda, 1991; Ortiz, 1988).

Currently, a paradoxical condition exists in the field—overreferral *as well as* underreferral. The complex evolution of the problem of overreferral and underreferral stems from research documenting, over a 20-year period, a tendency to inappropriately refer large numbers of students from language minority groups for special education (Mercer, 1973; Mercer & Rueda, 1991). Many of these students,

though weak in English language ability, were not students with learning disabilities. Their improper classification was deemed a function of testing conducted exclusively in English, or the failure of students with limited English proficiency to benefit from traditional classroom instruction in a language they were just beginning to learn.

More recently, researchers have also discovered a new phenomenon—the underreferral of students from language minority groups for special education. They have noted students who truly need specialized assistance, but who languish in general education classrooms, benefiting little from conventional instruction (Campbell et al., 1993; Gersten et al., 1992; Ovando & Collier, 1985).

Overrepresentation of language minority students in special education

In her seminal research on minorities in special education, Mercer (1973) found that too often Hispanic students were erroneously diagnosed as students with learning disabilities or mental retardation and were improperly placed in special education classes. Gearhart and Weishahn (1980) later called this practice a convenient way for administrators to "do something" without truly understanding the students' language needs or dealing with systemic problems.

After conducting an ethnographic study of two elementary schools, Richardson, Casanova, Placier, and Guilfoyle (1989) concluded that classroom teachers often refer students for special education or compensatory education services when they believe that the students are not benefiting from classroom instruction and when the teachers are unsure how to deal with the problem. Richardson et al. concluded that referral often is more a reflection of teacher stress, than a result of carefully diagnosed student learning deficits.

In 1986, Mehan et al. reached a similar conclusion in their study of teachers' decisions to refer students into special education. They noted that "the teacher's decision to refer students is only *partially* grounded in the students' behavior" (p. 86). The major determinant is a given teacher's belief that she or he is unable to provide adequate instruction to the child. Moecker (1992) recently examined the decision-making processes of three special education placement teams in reference to two groups of students—those who spoke English as a native language and those from language minority groups. He found that, in over half the decisions, the *learning disabilities* diagnosis was based on only two pieces of data: scores on standardized achievement and intelligence tests *ad-*

ministered in English. In these cases, "There was no discussion about the reliability [or validity] of referral information in any of the meetings" (p.5). If a parent asked why students were not tested in Spanish or brought up other issues related to second language acquisition, discussions were typically truncated. Finally, Moecker noted frequent reference by professionals such as counselors or school psychologists "to 'retesting' students until they qualified for specialized programs" (p.6). Transcripts revealed a hidden agenda, a belief that removing the student from the general education classroom would always be in the student's best educational interest. Yet, this is a dubious assumption.

Underrepresentation/Underuse of Support Services for Students From Language Minority Groups With Academic Needs

One outcome of Mercer's (1973) early research was a series of significant court decisions that resulted in the institution of legal and procedural safeguards to address the inappropriate referral of students from minority groups to special education. Consequently, some districts are reluctant to place students with limited English proficiency in special education because of potential charges of discrimination or misassessment as well as the fear of lawsuits.

On a national level, there is continuing evidence of overreferral of students with limited English proficiency into special education (Figueroa, 1989; Mercer & Rueda, 1991; Ortiz, 1988). In certain urban districts, however, a fear of legal action, as well as the realization that assessment procedures for these students are of weak validity, has led to a tendency toward *underreferral* of these students for special support services. In at least one large urban district, the problem has been raised by parents and advocacy groups. In this district, the percentage of special education students who are Hispanic is significantly lower than the overall percentage of Hispanic students in the district. This phenomena appears to be increasingly widespread for students with limited English proficiency (Fradd, personal communication, January, 1993).

A recent series of interviews in three inner city schools indicated that few support services were available for students from language-minority groups who were experiencing extreme academic difficulties, until they reached a reasonable level of proficiency in English and until the special education personnel felt comfortable assessing and teaching them (Campbell, et al., 1993). Further, because most of the special education teachers did not speak

Spanish (much less Lao or Hmong), classroom teachers saw no need to consider referring a child for services that were unavailable. Despite job searches extending as far as Madrid, Spain, shortages of qualified bilingual personnel persist (Gold, 1992).

As a result, there is a group of students with learning disabilities or other academic problems, who are limited in their use of English and who are not receiving the kind of assistance they need. Based on our research and interviews with urban administrators, we envision this as a growing problem.

In no way are increased referral rates into pullout special education programs a remedy. However, we are concerned about the large number of students

Whether or not low-achieving students from language-minority groups receive special support services, there are serious questions about the present capacity of special education services to offer valid instructional interventions.

from language-minority groups who are "falling through the cracks." Observational research (Arreaga-Mayer, 1992; Campbell et al., 1993; Chang, 1992) is beginning to increasingly document the dire plight of low-achieving students from language-minority groups in general education classrooms when no support is provided.

Differing Theories and Models of Second Language Instruction

Whether or not low-achieving students from language-minority groups receive special support services, there are serious questions about the present capacity of special education services to offer valid instructional interventions. One reason for this, however, arises from a controversy within bilingual education itself.

Bilingual educators and researchers have long debated the optimal instructional model for providing transitions for students from language-minority groups into the second language of English (Crawford, 1989; Wong-Fillmore and Valdez, 1986). The goal of building competence in English without unduly frustrating students requires a complex balance between the utilization of the native language and the language to be acquired. Contemporary models differ greatly in the ratio of primary (or native) language to English language instruction provided, particularly during the first five years of

school. Two issues underlying the controversy are: a) how quickly language minority students should be placed in classrooms where English is the sole means of instructional communication; and b) whether Spanish (or another native language) is merely a bridge to help students learn English as quickly as possible, or whether the goal is for students to become fluent and academically competent in both languages.

In reality, there are many differing models of bilingual education (Ramirez, Yuen, Ramey, Pasta & Billings, 1990). For the purposes of this discussion, however, we briefly describe the two major approaches advocated for educating students from language-minority groups and the underlying rationales of these models.

By far, the most commonly advocated model of bilingual education is one with a strong native language component (Cummins, 1989; Moll & Diaz, 1987; Wong-Fillmore & Valdez, 1986). Although some call this approach "maintenance" or "late exit," we will use the term *native language emphasis*.

Within the range of programs with a native-language emphasis, some teachers aim for a rapid transition into all-English instruction as early as the 3rd grade; other teachers continue some native-language instruction throughout the entire elementary school years (in some cases, even through the 8th grade). These programmatic emphases are described more fully in the following sections.

Native Language Emphasis

Wong-Fillmore and Valdez (1986) cogently presented the conceptual framework for native-language emphasis:

By reading, we refer here to the act of reconstructing the meaning of a text as intended by the writer, and through this process, gaining access to the information that is encoded... Reading is unquestionably a language-dependent skill. It is not possible to read in a language one does not know, if reading involves the act of making intelligible to oneself written texts of any complexity beyond that of street signs. A prerequisite for true reading, it would appear, is a fairly high level of knowledge of the language in which the text is written (pp. 660-661).

In other words, until students obtain a reasonably good knowledge of English—particularly in such conceptually complex areas such as reading/language arts and social studies—instruction should be in the native language. Thus, students are not deprived of the experience of learning the core con-

cepts in the normal school curriculum during the years when they are learning English. According to this viewpoint, English language instruction in complex subjects such as social studies would be nearly incomprehensible, and of little benefit to the student. Premature introduction of students to English language academic material can be harmful (Krashen, 1982; Moll & Diaz, 1987).

Many contemporary theorists, such as Cummins (1989) or Krashen (1982), believe that once students succeed in complex academic material in their native language, they will transfer this knowledge to the same subjects taught in English. Therefore, it would seem more sensible to teach complex academic content to students in their native language first so that students can understand and discuss challenging material without the added demand of constantly translating or expressing ideas in a second language.

As such, most bilingual approaches typically stress academic instruction in the students' primary language and suspend English-language academic instruction, until students demonstrate an adequate grasp of English and exhibit competence in academic areas in their native language (Cummins, 1989; Krashen, 1982).

Advocates of native language emphasis such as Cummins (1989) and Moll and Diaz (1987) noted that another problem with prematurely placing students in academic classes taught in English is that the academic material will be simplified or "watered down" to meet the perceived level of student competence. "A common reaction to the less-than-fluent English of a student is to teach content from a lower grade level and to expect only lower-level cognitive skills, such as simple recall" (Chamot & O'Malley, 1989, p. 114). The predominant use of simplified materials can lead to unnecessary constraints on students' cognitive growth.

Thus there is a widely held belief that native-language instruction in content areas such as reading, social studies and language arts is essential (Goldenberg & Gallimore, 1991; Reyes, 1992). Yet there remains great diversity in opinion and practice as to how rapidly and in which content areas students should be introduced to English language instruction, and how long native language instruction should be maintained (Chamot & O'Malley, 1989; Crawford, 1989; Ramirez et al., 1990).

Sheltered English/Structured Immersion

Another approach to the education of students from language-minority groups is sheltered English (Northcutt & Watson, 1986) or structured immer-

sion (Baker & de Kanter, 1983; Ramirez et al, 1990). This approach was developed and successfully implemented with English-speaking students in Quebec, Canada. The success of that experiment—documented by significant growth in academic achievement on standardized tests—played a large role in the popularization of sheltered English/structured immersion approaches in the United States (Genesee, 1984). This approach is currently used most frequently with Southeast Asian students in the elementary grades, and it is increasingly being used with both Hispanic and Southeast Asian students at the secondary level (Chamot & O'Malley, 1989). Researchers have also reported some examples of its use with elementary-age Hispanic students in the United States (Gersten, Woodward & Schneider, 1992; Ramirez et al., 1991).

Sheltered English assumes that an understanding of English can be obtained through well-designed content area instruction where English is used, *but at a level that is constantly modulated or negotiated* (Chamot & O'Malley, 1989; Long, 1983). Sheltered English teachers attempt to control their classroom vocabulary, to use concrete objects and gestures to enhance understanding, and to utilize a wide range of instructional strategies so that students understand the academic material. In some cases, students experience native-language instruction for periods of 30-90 minutes a day at school. However, English is used for the majority of the teaching day. The goal of sheltered English is for students to learn English while they are developing basic academic abilities and skills and to develop English language competence while building abilities in the areas of comprehension and problem solving.

In short, during the first few years of elementary school, a student in a sheltered English program will experience most of his or her day in English, whereas if the student were in a bilingual education program with a strong native-language emphasis, much of his/her day would be in the native language.

Comparing Models of Bilingual Education

To date, research contrasting the effectiveness of structured immersion versus bilingual approaches with more of an emphasis on native-language content area instruction has produced equivocal findings (Baker & de Kanter, 1983; Cziko, 1992; Danoff, Coles, McLaughlin, & Reynolds, 1977-1978; Willig, 1985). Most longitudinal studies show little or no difference in achievement between students taught with a native-language emphasis approach and those taught with a more sheltered English or structured immersion model.

In a large recent study, Ramirez (1992) also found no significant differences in achievement or levels of academic engagement among students taught with three different bilingual approaches: structured immersion, a native-language emphasis bilingual approach, and an "early-exit" bilingual approach (where students had only two years of native language instruction). Their longitudinal evaluation, conducted over seven years, included a wide range of measures (e.g., academic assessments in both English and Spanish, classroom observations of language used for instruction, and observations of instructional strategies utilized in each type of classroom). The academic progress of over 500 students from language-minority groups was tracked from kindergarten to 4th grade. Over three-fourths of the students were from low income families; most were children of Mexican immigrants.

Most longitudinal studies show little or no difference in achievement between students taught with a native-language emphasis approach and those taught with a more sheltered English or structured immersion model.

A possible cause for the consistent lack of significant differences in the various evaluation studies was elucidated by the observational research of Tikunoff (1985). His findings revealed wide variation in *what actually transpires* in bilingual education classrooms, regardless of how the approach is labeled. He observed that, on the average, English was used 60% of the time, and Spanish was used most of the remaining 40%. However, there were large variations from teacher to teacher and school to school. Wong-Fillmore & Valdez (1986) also noted huge variations in practice, and many found bilingual rooms to be bilingual in name only; in reality, they closely resembled traditional English language classrooms.

Nine years ago, we noted that "bilingual education... [is] relatively easy to write about, yet difficult to implement sensitively on a day to day basis" (Gersten & Woodward, 1985, p. 78). As different as the various bilingual models may appear in theory, some of the finer distinctions fade in practice (Tikunoff, 1985). Practical matters, such as high costs and teacher training requirements, are likely to contribute to the considerable variation in practice.

As Cziko (1992) concluded, "It may well be unlikely that this question [of which is the best ap-

proach for teaching language minority students in the United States] will ever be satisfactorily answered regardless of the quantity and quality of additional evaluative research" (p.15).

A serious issue common to all approaches is the "double demands" required of students from language minority groups. Specifically, these students need to acquire a second language as well as master traditional subject matter in the amount of time most students are only asked to learn these subjects in just one language. Overall, it appears that the type of bilingual model selected is less important than the quality of instruction provided (Gersten, 1991; Reyes, 1992; Tikunoff, 1985).

Relevance and Implications for Special Education

For a large number of students from language-minority groups, and for those who teach them, the task of simultaneously learning a new language and mastering the core academic curriculum in this new language is daunting. It is likely that teachers who are unable to cope with many of the demands associated with students from language-minority groups will often look to special education for assistance (Mercer & Rueda, 1991).

...it appears that the type of bilingual model selected is less important than the quality of instruction provided.

The need for special education services also arises from the way teachers provide transitions for students from an almost-all Spanish to an almost-all English instructional program. Abrupt transitions almost always have disastrous effects on student achievement and self-concept (Ramirez et al, 1990). Yet research shows that this is exactly what schools tend to do with students from language-minority groups (Gersten, 1991; Ramirez et al., 1989).

Too often, teachers label students caught in these transitions as "at-risk" for special education or school failure. This "policy" is one significant reason for the disproportionate number of inappropriate special education referrals, in the upper elementary grades, of students from language minority groups.

Another major problem with implications for special education is the variation in models that exists throughout the United States. These variations may exist between neighboring school districts or even within the *same* district. The high mobility of families from language-minority groups increases the

likelihood that a child will have been taught with very different approaches at different times in his or her school life. The confusion this can create for a student has been evident in our own observational research (Campbell et al., 1993; Woodward & Gersten, 1992). The educational history of one of the students (referred to here as Jorge) from the case studies of Campbell et al. (1993) provides a brief illustration.

Jorge was one of twelve "at risk language minority" students observed by the research team over a three-year period in a large, racially mixed school district with a sizable low income population. Jorge spent his first three years in a native-language emphasis bilingual education program. Virtually all instruction was in Spanish, save for one hour of English as a second language. When his family moved to another school, he entered a sheltered English program. This meant that Jorge went from a full day in Spanish where he was learning reading, spelling, and mathematics in his native language to a classroom where English was the primary language of instruction. Even though the teacher controlled her vocabulary and academic materials, Jorge was well behind his new peers, most of whom were in their third year of English language instruction. Moreover, his reading was a strange hybrid of the two. He subsequently was referred for special education placement, and placed in a room where the teacher spoke only English. Both the special education staff at the school and the school administration were unsure where to begin.

Jorge's case study illustrates an important point. The diversity of viewpoints on second language programs manifests itself in odd, distressing ways for students from families with high rates of mobility. The stress this diversity of programs puts on students with weak academic abilities is particularly severe.

Whole/Natural Language vs. Skills Emphasis: A False Dichotomy?

In a recent synthesis of findings from research conducted by the Handicapped Minority Research Institutes in the late 1980s, Figueroa et al. (1989) concluded that one of the major flaws in current special education services to students from language-minority groups is the lack of integration between the remedial programs provided by special educators and the students' instructional program in the regular classroom. This problem is hardly unique

for this population; Zigmond, Vallecorsa and Leinhardt (1980) and Allington and McGill-Franzen (1989) have noted similar discrepancies for English-speaking students with learning disabilities. In both instances, the researchers found that remedial, pull-out settings tend to emphasize mastery of discrete skills in a non-integrated fashion.

A major concern among bilingual educators is that the task-analytic, skill building approach used in many special education programs is both functionally and philosophically incompatible with the natural-language (often called "whole language") approach increasingly used in mainstream classrooms serving students from language-minority groups (Au & Sheu, 1989; Cummins, 1989). Many bilingual special educators (Cummins, 1984; Yates & Ortiz, 1991) believe that this conventional approach used in special education is insufficient for meeting the needs of students from language minority groups because language development will be stifled.

The diversity of viewpoints on second language programs manifests itself in odd, distressing ways for students from families with high rates of mobility. The stress this diversity of programs puts on students with weak academic abilities is particularly severe.

Tharp and Gallimore (1988) voiced severe criticism of a systematic, skills-oriented approach for meeting the needs of students from language-minority groups. They noted that the attempt to improve reading performance by controlling both oral and written vocabulary and using highly structured phonic progressions—a cornerstone of many special education programs found to be effective for English-speaking students with learning disabilities—may actually impede language acquisition for students with limited English proficiency. Similarly, Speidel's (1987) research demonstrated that systematic instruction in English language grammar, syntax, and definitions did not produce generalizable effects in English language production among second-language learners.

Many second-language programs, therefore, have begun to move towards the increased use of natural language (Cummins, 1989; Saville-Troike, 1982). Both Cummins (1989) and Tharp and Gallimore (1988) have eloquently pled for the conscious integration of natural-language use and genuine dialogue into

classroom instruction. These researchers have concluded that conventional emphases—on correct oral reading, proper pronunciation in English, systematic instruction involving vocabulary lists, and English language grammar and literal comprehension—not only inhibit the language development of students but also hinder their overall cognitive development by taking most of the meaning and enjoyment out of learning.

When many teachers work with students from language-minority groups, particularly those with learning problems or disabilities, there is a tendency to simplify language in an unnatural way. Regarding the language that teachers often use for special education students from language-minority groups, Fradd (1987) noted that teachers' communication

is organized and presented in much the same way as... (in) foreign language instruction. Often communication consists of brief utterances such as 'What is this?' or 'What color is that?' Students learn to reply in like form, in one- or two-word utterances. Little curriculum content or social expectation is communicated in this type of verbal exchange. Sometimes, instead of promoting the intellectual and social aspects important in learning English, the students' progress is impaired by the repetitive practice and meaningless drill (p. 146).

In classroom observations of students from language-minority groups, Ramirez (1990) noted the same phenomenon.

Moll and Diaz's (1987) ethnographic research of reading instruction for students from language-minority groups in the "low ability" group raised a host of important issues. Their observations of these students in conventional English language classrooms highlight some of the problems that arise when teachers attempt to apply traditional principles of instruction to low-performing students from language minority groups. The observed teachers tended to correct pronunciation errors (e.g. *seyd* for "said") or interrupted with attempts to define simple English words—"surprise," "guess"—thereby breaking the flow of the story. Moll and Diaz noted "the deliberate, slow pace of lessons with students in the low reading groups" (p.305), and the lack of intellectual challenge and conceptual development provided them.

This focus on the details of accurate English language production makes the students appear less competent and able than they really are. When Moll and Diaz followed the same students into a Spanish reading lesson, they observed that these same "low ability" students were able to answer comprehen-

sion questions correctly, and develop and expand on ideas in the stories.

Yates and Ortiz (1991) also highlight the disparity and tensions between conventional special education practice and the emerging model for appropriate instruction of students from language-minority groups with learning disabilities. They emphasized the importance of *comprehensible* input:

It is difficult for LEP [limited-English proficient] students to respond appropriately when discussions revolve around leprechauns, blarney stones and the joys of eating corned beef and cabbage if they have no prior experience with these topics. The principle of comprehensible input... is violated when teachers use topics, materials and tasks that are linguistically, experientially and culturally unrelated to students' backgrounds. ...*Teachers should add sufficient context rather than attempting to simplify tasks by breaking them down into what they consider to be smaller, less complex units* (pp. 15-16) [emphasis added].

A more natural, fluid learning environment is necessary for language development. People use language to obtain what they want or to express their thoughts, feelings and ideas (Fradd 1987). Therefore, it is particularly important that second language instruction be relevant rather than only a series of drills on grammar and usage.

A consistent theme in observational research (Chang, 1992; Gersten, 1991; Woodward & Gersten, 1992) is that constricted language seems to be a logical extension of the training that many special education teachers receive. In certain special education classrooms, the teacher's attempt to strictly control curricula and language demands does not afford the student opportunities for language development. Ramirez (1992) noted that this problem persists in the education of students from language minority groups, regardless of whether the teacher is bilingual and whether instruction was in Spanish or English.

An Effective Balance

Clearly, we need some reconceptualization of how to teach students from language-minority groups (including those in special education). We need to draw on the developing consensus among bilingual education researchers, while integrating principles of effective instruction and newer cognitive approaches from special education. As recently as 1991, Yates and Ortiz concluded: "The field of bilingual special education is so new that a body of effective practices has yet to be established" (p. 14).

Nonetheless, a body of research is emerging from these three areas that suggests practices likely to be effective.

First, research suggests that children must be given interesting reading material that makes sense to them, and material that explicitly provides links between students' prior knowledge and concepts in the story. Based on extensive work with students from language minority groups, Barrera (1984) noted how English language reading can be an excellent medium for the development of English language competence.

The beginning of second-language reading can be a natural...learner-controlled occurrence when children approach reading as a desirable, useful, and meaningful activity... Second-language reading can commence soon after native-language reading begins, or develop virtually alongside it, as long as the learner is making sense of the written language he or she encounters (Barrera, 1984, p. 170).

Elley and Mangubhai's (1983) work further supports this position. When students were given an abundance of high-interest story books in English, their progress in reading and listening comprehension increased at almost twice the normal rate. Tharp's (1982) experimental research on the Kamehameha Early Education Program and Goldenberg and Gallimore's (1991) research with urban Hispanic students both clearly indicate that reading programs that stress comprehension increase students' comprehension. Thus, the use of comprehensible, highly motivating books can be a very effective medium for rapid acquisition of English (Allen, 1989).

Second, an emerging view of effective instruction for students from language minority groups builds on the concepts of comprehensible input (Krashen, 1982), and "negotiated" interaction (Long, 1983). Ensuring that students understand the concepts that the teacher attempts to convey involves intentional use of redundancy, more frequent use of simple or declarative sentences, frequent checks for student comprehension, and the use of physical gestures and visual cues. Teachers should try to explain ideas or concepts several times using slight variations in terminology and examples.

Fradd (1987) cautions that making material comprehensible should not entail a "watering down" of concepts. It requires the same type of sophisticated modulation of instruction found in the instructional research of such individuals as Graham and Harris (1989) and Palincsar and Klenk (1992).

This approach to teaching, with its balance of systematic strategy and skill development and the use of instructional conversations to promote comprehension, is extremely difficult for teachers to implement (Goldenberg & Gallimore, 1991; Reyes, 1992; Woodward & Gersten, 1992). To a large extent, this difficulty results from the time it takes for teachers to master and personalize these techniques. Teachers need to be sensitive to growth in both students' cognitive and English language development over longer time periods (e.g., weeks or months). Furthermore, the teacher must work toward some sense of mastery, while pushing students slightly beyond their current level of knowledge and achieving. This combination requires a high level of expertise and a series of sophisticated judgments.

Third, students from language-minority groups must be pushed to move from learning and producing limited word translations and fragmented concepts, to using longer sentences and expressing more complex ideas and feelings (Barrera, 1984; Gersten, 1991). Special educators often have a relatively easy time breaking complex concepts into small steps, frequently assessing whether students understand the concept taught, and using redundant language and physical gestures as prompts. However, the task of encouraging students to express their ideas in a new language, and in increasingly complex forms, presents a challenge for special educators.

This emerging sense of effective approaches in bilingual special education suggests that special educators grounded in more task-analytic or behavioral schools of instructional practice can bring their skills to bear in useful ways to meet the needs of students from language-minority groups with academic problems, including those with mild disabilities. However, to fully meet the needs of these students, special education must also increasingly draw on the cognitive tradition, on use of relevant curricula materials, and on the creation of learning environments where students feel comfortable expressing their ideas in a new language.

Conclusion

Rueda (1990) has noted that many issues confronting special education for Hispanic students "are simply manifestations of more fundamental problems that affect the entire field..." (p. 126). Among these are the questions from the field of bilingual education of how soon to introduce English-language content instruction and how to handle the complex task of both teaching a second language and developing academic abilities in a relatively

short time frame. Similarly, it is essential to have a grasp of the many unresolved issues in the field of special education, such as the advantages and disadvantages of pullout programs, problems in curriculum integration, the proper balance between skills and strategy instruction, and accurate methods of identification and ongoing assessment. An appreciation for the root controversies in both fields is crucial to understanding the dilemmas facing those designing and studying effective programs for students from language-minority groups with disabilities or those experiencing difficulty in school.

As we have discussed, emerging research strongly suggests that all students from language-minority groups—including those with disabilities—can profit from some balance of second language instruction based on contemporary whole-language/process approaches to teaching literacy. This is not to say that such methods provide a complete solution, or that there is no place for some version of systematic instruction with adequate review and practice of targeted skills and strategies. Rather the issue is one of how to combine these skills and strategies into a viable approach to meet the needs of students with limited English proficiency and with learning disabilities, as well as those not profiting from conventional instruction.

It is easier to critique current practice than to begin building guidelines for special educators to collaborate effectively with classroom teachers on issues related to more effective instruction for these students. The problem is also complicated by a dearth of bilingual special educators. However, with relevant professional development activities, monolingual teachers can also effectively teach these students, an observation supported in recent research on the sheltered-English approach to bilingual education (Allen, 1989; Chamot & O'Malley, 1989; Woodward & Gersten, 1992).

The task is not easy. Earlier research has detailed problems and argued for more valid, culturally sensitive procedures for assessment and classification. Research has also documented improper placement of students from language-minority groups into special education, where watered-down curricula, constricted use of language, and lower teacher expectations have had a detrimental effect on students.

Newer research has shown that, in some areas, the tide is turning, and students with limited-English proficiency are referred for special services at a lower rate. However, research has also shown that too many lower-performing students from language-minority groups often do not receive adequate in-

structional assistance from their classroom teachers. Whether students from language-minority groups are underrepresented or overrepresented statistically in special education, it is important that none is underserved and that all receive quality instruction.

We are hopeful that the current decade will witness a convergence of findings and a growing synergy among researchers and practitioners in the fields of learning disabilities, bilingual education, and special education. There have been calls for collaboration between special education, bilingual education, and general education (Harris, 1991; Yates & Ortiz, 1991). Clearly these collaborative efforts are necessary. In this article, we have tried to explicate the complex instructional issues facing those developing effective instructional approaches for students from language-minority groups—including those with learning disabilities—and those who are not succeeding with traditional classroom instruction. ♦

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Structured Immersion for Language Minority Students: Results of a Longitudinal Evaluation

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A recent comprehensive review of studies evaluating the effectiveness of bilingual education by Baker and deKanter (1983) of the U.S. Department of Education concluded: "Although there are few American examples of structured immersion, these programs seem to generally succeed quite well in both the second language and subject areas" (p.11). The authors cited several Canadian studies demonstrating that language minority students who received a structured immersion approach often make outstanding progress in both acquisition of the second language and mathematics achievement (Barik, Swain & Nwanuobi, 1977; Lambert & Tucker, 1972). They suggested that a structured immersion approach may well be beneficial for language minority students in the United States, and may be superior to the transitional bilingual model used in most programs in this country. Recent research by Gray (1984) indicated that immersion approaches appear to be much more effective than conventional approaches in teaching Spanish or French to English-speaking elementary students in the United States.

An advisory panel appointed by the Office for Civil Rights recommended that language minority students should be taught academic subjects in their primary home language until they could effectively benefit from English language instruction. This model has come to be called transitional bilingual education, and it has been the predominant mode of instruction for language minority students over the past decade.

A recent nationwide search by J. D. Ramirez (1985) and associates conducted in 1983 and early 1984 located fewer than ten immersion approaches in the United States. There are several reasons for this dearth of immersion programs. First and foremost is the policy adopted in the late 1970's by the U. S. Office of Civil Rights in response to the U. S. Supreme Court's *Lau v. Nichols* decision. The court had ruled that public schools must provide special assistance to students who enter school with limited English proficiency: it was no longer legal merely to place language minority students in regular classrooms where all instruction was conducted in English. An advisory panel appointed by the Office for Civil Rights recommended that language minority students should be taught academic subjects in their primary home language until they could effectively benefit from English language instruction. This model has come to be called transitional bilingual education, and it has been the predominant mode of instruction for language minority students over the past decade.

The structured immersion approach must not be confused with submersion. *Submersion* (really a non-approach) was deemed unconstitutional by the Supreme Court in the *Lau v. Nichols* case. Essentially, it is a "sink or swim" approach: limited English-proficient students are placed in regular English-speaking classrooms and asked to fend for themselves. Instruction is conducted in English, regardless of whether or not the children can understand what the teacher is saying. The curriculum is in no way adapted to meet their needs.

In contrast, in structured immersion programs, as defined by Baker and deKanter (1983), most of the lesson is conducted in English, but with "*a curriculum...structured so that communication is at a level the child can understand [italics added]*" (p.11). Thus, lessons in math and reading, for example, are conducted in English, but always at a level appro-

appropriate for the students. If necessary, teachers or instructional aides will define words or repeat instructions in both English and the child's native language.

One of the more difficult problems in implementing a structured immersion program is how to systematically introduce English in a controlled and efficient manner so that students can follow the teacher throughout the lesson. One viable option would appear to be the educational model commonly called direct instruction. There is evidence that this model has been effective in teaching economically disadvantaged and/or low performing students (Becker, 1977; Rosenshine, 1983; Stebbins, St. Pierre, Proper, Anderson & Cerva, 1977), including those entering school with limited English backgrounds (Gersten, Carnine & Williams, 1982; Gersten, Taylor, Woodward & White, 1984). With this model, instructional programs are developed so that each step in acquiring a new skill or concept is clearly specified and taught. The language of instruction is clear and consistent, using a carefully controlled vocabulary. Lessons call for frequent assessment of student progress with specific procedures for correcting student errors immediately. (See Becker, Engelmann, Carnine & Rhine, 1981; Gersten, Carnine & White, 1984; or Rosenshine, 1983, for further details on this model.) Because of its careful sequencing of preskills, its controlled vocabulary, and its consistent assessment of student mastery of the material, direct instruction would seem to offer a workable basis for establishing a structured immersion program for limited- and non-English speaking students.

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The purpose of this paper is to describe a structured immersion program, based on principles of direct instruction, that has been operating in the United States for the past 7 years. The students involved were Asian, virtually all classified as low income by U. S. Department of Agriculture "free

lunch" guidelines. Results of a longitudinal evaluation of the program are discussed. Finally, implications for developing potential effective structured immersion programs in the United States are presented.

Evolution of the Intervention

In 1969, there were no non-English speaking or minority children at a school on the West Coast, which will be called Lockwood School. There was, however, a high proportion of low income, low achieving students, who became eligible for Title I funds. A direct instruction program in basic skills was instituted, similar to the one used in Project Follow Through.

In 1970, four non-English-speaking first graders entered the program. Since there was no formal program for students with limited English proficiency (LEP), these children were taught using the direct instruction programs in language and reading. This appeared to be a successful approach, so all new LEP students in the primary grades were included in the direct instruction programs.

At that time the few LEP students in the fourth, fifth, and sixth grades at Lockwood School were not taught English language at all for their first 3 to 5 months of school. In the meantime, their younger siblings in the primary grades were being taught with structured immersion. By the end of the year, the primary grade students were reading in English and beginning to speak and read English with some fluency, often surpassing their older siblings in English language and reading skills. Beginning in 1979, an upgraded model was developed for LEP students in kindergarten through sixth grade. A combination program was designed using both developmental and remedial direct instruction programs.

Major Components of the Program

Structured English Immersion

Language acquisition is, in many ways, fundamentally different from acquisition of basic academic skills. Yet we contend that the more a child practices new language skills throughout the day, the more quickly he or she will master the language. However, as in most areas of education, mere practice is not enough. The key to a structured immersion is that all academic instruction takes place in English, *but at a level understood by the student*. At the same time, there are always bilingual instructors in the class who understand the children's native language and translate problematic words into the na-

tive language, answer questions phrased in the native language, help the children understand classroom routines, show them the bathrooms, lunchroom, and playground, and so forth. The carefully controlled vocabulary and the carefully sequenced lessons in the direct instruction programs allow teachers to "preteach" any new words that come up in the math, reading or language lessons. The curriculum programs are structured so that prior knowledge of English is not assumed. New material and concepts are explained to the students.

Teaching the Structure of the English Language

Beginning students with no English language skills, regardless of grade level, receive two language lessons a day. We have learned that the Asian children "pick up" nouns for everyday objects fairly easily from their peers. However, they need intensive instruction in how sentences are developed and spoken in English, since the syntax of English is totally different from that of Korean, Japanese or Vietnamese. The Distar Language and SRA Corrective Reading Programs emphasize the structure of the English language—tense, plurals, appropriate use of adjectives and prepositions, along with selected logical and analytical skills such as classification skills and analogies.

The key to a structured immersion is that all academic instruction takes place in English, but at a level understood by the student.

Use of Both Developmental and Remedial Programs for ESL Students

In its intermediate grade (3-6) program, the immersion model combines developmental materials with remedial programs. There are several reasons for this combination. The older Asian students need the intensive work on language production and receptive language provided by the beginning language program, and they need the more sophisticated content of the remedial reading programs (geared for 9- to 17-year-olds). In math, the remedial/developmental distinction is less important because the language demands of mathematics curricula are greatly reduced, and the issue of "childish" content is not terribly important.

Nongraded, Mainstreamed Approach

Rather than isolate the LEP students by placing them in a separate ESL classroom, the program

mainstreams them into a learning environment where they encounter English-speaking children working at many skill levels. Students are placed in instructional groups in language, reading, and math based on their current skill level, rather than age. Thus, a fourth grader may be in a beginning (kindergarten) English oral language program, a first grade reading program, and a fourth grade math program. These student "groupings" are temporary; as skills develop, students are moved as rapidly as possible through the academic sequences. Often students enter a regular classroom within two years.

Use of Bilingual Aides as Instructors

The paraprofessional aides serve two major purposes in the program. They are trained (by the head teachers) to teach daily lessons to small groups of children in the reading and arithmetic programs. Essentially, they serve as additional teachers, allowing for small group instruction in all academic areas. In addition, the bilingual aides help the non-English-speaking students adjust to the environment, occasionally serving as translators during a child's first few months.

Method

Overview of Evaluation Designs

For the primary grades, it was possible to find a comparison group. Thus, a quasi-experimental design was utilized. In the intermediate grades, this approach was not possible; thus, a norm-referenced evaluation design (Tallmadge, 1977) was utilized. Each evaluation involved two separate groups (or cohorts) of students.

Subjects

Intermediate grades

The study evaluated all LEP children who were in the program for at least 8 full months. The first sample consisted of children who participated from October 1980 to June 1981, and the second sample consisted of those who attended from October 1981 to June 1982. The ethnic composition of each sample is described in Table 1.

Primary grades: Selection of the comparison group

To be eligible for the study sample, students were required to attend either the structured immersion program or the distinct bilingual classes for two full years. Since the language minority population in that area is highly mobile, a large number of students in both groups were ineligible, as their length of stay was less than two years. Two different

Table 1. Ethnicity of Students in Immersion Program: Intermediate Grades

Nationality	1980-1981		1981-1982	
	N	%	N	%
Vietnamese	7	46	13	65
Korean	6	40	4	20
Japanese	-	-	2	10
Laotian	1	7	-	-
Hispanic	-	-	1	5
German	1	7	-	-
TOTAL	15	100	20	100

cohorts were evaluated. Cohort 1 consisted on children who began first grade in or before October 1978 and completed second grade in June 1980; Cohort II consisted of children who began first grade by October 1979 and finished second grade in June 1981.

The comparison group for each cohort was selected from the district's central computer file, which contained information on each child's ethnicity, date of birth, and entry Language Assessment Scale (LAS) score.

The mean entry LAS score for Cohort I immersion and comparison students were nearly identical (2.7 for immersion and 2.6 for comparison). In both cases, all students were Asian or from the Pacific Islands. In the case of Cohort II, the mean LAS score for the immersion sample was 2.18, 2.28 for comparison. Table 2 presents the ethnic distribution for Cohort II. (Ethnic breakdowns for Cohort I comparison students were unavailable.)

Measures

The measure of achievement used in this evaluation was the Comprehensive Test of Basic Skills (CTBS), Form S, 1973 edition. The Language Assessment Scale or LAS (DeAvila & Duncan, 1977) was used to describe the entering English language capabilities of the students. In the evaluation of the

primary grade students, the LAS was used to determine whether the students in the program and comparison samples were equivalent in English language proficiency. The Language Assessment Scale (LAS) provides an overall picture of a child's oral language proficiency in English. Scores on the LAS range from 1 to 5. 1 and 2 mean non-English speaking; 3 is limited fluency; 4 is near fluent; and 5 is fluent in English. The test assesses all four systems of language—phonemic, referential, syntactic, and pragmatic (the ability to use language to express needs or obtain goals). Reported reliability (internal consistency) indices range from .89 to .96 for a sample of 295 children. Inter-rater agreement coefficients range from .87 to .96.

Testing Procedures

All students at all grade levels in the structured immersion program were tested on a level of the CTBS. (The appropriate instructional level was determined by the teacher.) In each case, students took a level of the test for which there were established empirical norms. The student's raw score was converted to normal curve equivalents (NCEs).

The district's bilingual program used a different testing policy. Teachers were not required to test LEP students at all; they could limit testing to those students who they felt were reading at or above grade level. Furthermore, if a student was tested and his or her scores were below grade level, either the teacher or principal could choose *not* to report the scores. A few teachers and principals did test all students; but most either did not test—or did not report—scores of LEP students who were below grade level. (If a child was not tested at all, his/her name did not appear on the district computer file.)

Since all students in the immersion program were tested, and only the higher achieving students in the traditional program were tested, any comparisons between the immersion students and the children in the comparison group represent a conservative estimate of the effects of the immersion program.

Table 2. Comparison Between Immersion and Bilingual Groups or Cohort II: Primary Grades

Group	Ethnicity*							Entry Language Assessment Scale Scores	
	K	V	J	F	G	S	Total	M	SD
Structured Immersion	8	2	2	2	1	1	16	2.18	1.47
Bilingual	2	6	-	-	-	5	7	2.28	.49

*K=Korean V=Vietnamese J=Japanese F=Filipino G=Guamanian S=Samoa/Thai

Results

Intermediate (Third through Sixth) Grades: Norm-Referenced Design

Data were analyzed using the norm-referenced model (Tallmadge, 1977). Because of the skewed distributions and small sample sizes, both a parametric (correlated *t*-test) and a non-parametric statistic (the Wilcoxon sign-rank test) were used to analyze the results. These analyses were performed for Grades 3 through 6 together. (The use of NCEs allows for this.)

Table 3 presents the descriptive statistics and the statistical analyses. Students' scores from the previous spring served as their pretest scores. All calculations were performed on NCE scores.

Significant improvement was found in all domains for the 1980-81 sample. The results of the correlated *t*-test (with 14 degrees of freedom) were as follows: 6.0 for reading, 5.3 for language, 6.5 for math. All were significant at the .05 level. Using the non-parametric Wilcoxon sign-rank test (Marascuilo & McSweeney, 1977), all results were significant at the .05 level. Results were $T=110$ for reading, $T=113$ for language, $T=116$ for math. For the 1981-82 students, gains in all three domains were significant when the parametric *t*-test was used. When the non-parametric Wilcoxon test was used, significant growth was found in reading and language, but not math.

The magnitude of the gains for the intermediate grade students was .91 pooled standard deviation

units in reading for 80-81 and .97 for 81-82. The gains were 1.51 and 1.02 in language, and 1.55 and .39 in math. These gains exceeded commonly set criteria for educational significance (Tallmadge, 1977).

Primary (First and Second) Grades: Comparison Group Design

Because of the fashion of reporting scores for comparison students, the analyses could only examine whether, by the end of second grade, a higher proportion of ESL students in the immersion program scored at or above the national median than comparable students in the district's bilingual program. Thus, results were analyzed using the chi-square statistic. This hypothesis was evaluated for both cohorts of students.

Table 4 presents the number and percent of immersion students and students in the district bilingual program performing at or above grade level on total reading, total language, and total math on the CTBS. Data are presented for Cohort I, Cohort II, and the aggregated samples (Cohort I and Cohort II pooled together). Chi-squares were performed on the aggregated sample only (to insure adequate sample size).

Results indicated significant differences in reading and math, but not language. Seventy-five percent of the students were at or above grade level in reading, and 96 percent in math. For the students in the traditional bilingual program, only 19 percent were at or above grade level in reading; 62 percent

Table 3. Norm-Referenced Comparison for Grades 3 to 6: Mean, Standard Deviation, Pretest and Posttest Scores (in NCE units) on the CTBS (Includes Percentile Equivalents)

	M	SD	%ile*	M	SD	%ile	Wilcoxon T	t
1980-81 school year (N=15)								
	Pretest (May 1980)			Posttest (May 1981)				+(14)
Total reading	11.0	17.3	4th	31.2	12.0	19th	110*	6.0*
Total language	15.2	24.7	5th	34.0	17.1	23rd	113*	5.3*
Total math	15.8	26.6	13th	47.5	15.2	45th	116*	6.5*
1981-82 school year (N=20)								
	Pretest (May 1981)			Posttest (May 1982)				+(19)
Total reading	20.6	23.4	8th	41.1	18.4	34th	205**	6.2*
Total language	20.4	23.2	8th	41.8	17.4	36th	210**	6.9*
Total math	39.4	24.8	31st	47.7	0.5	47th	121 (NS)	2.9**

*Conversion of mean NCE

*Gains from pre to post are statistically significant, $p < .005$.

**Gains are significant, $p < .05$.

Table 4. Percent of Students at or Above Grade Level for Structured Immersion and Comparison Sample on the Comprehensive Test of Basic Skills (CTBS)

	N	Total reading			Total language			Total math		
		%	χ^2	p	%	χ^2	p	%	χ^2	p
Cohort I:										
Structured immersion	12	83			75			92		
Comparison	9	11			44			67		
Cohort II:										
Structured immersion	16	69			69			100		
Comparison	7	29			43			57		
Combined (Cohorts I and II):										
Structured immersion	28	75	11.70	.001	71	8.89	.005	96	2.31	NS
Comparison	16	19			44			62		

were above grade level in math.

The mean score for immersion students in reading corresponded to the 64th percentile for Cohort I and the 65th percentile for Cohort II. In language, the percentiles were 72 and 64, in Math 80 and 88. In each case, the mean performance of the immersion students exceeded the national median. The reader is reminded that the CTBS tests only written language, not oral language.

Maintenance of effects

Table 5 presents achievement data for all immersion students from Cohort I who are still in the district. Virtually all these students are now in regular classrooms in the school. The mean NCEs and percentile equivalents are presented for end of

second grade (May 1980), end of third (May 1981), and end of fourth (May 1982).

Data were analyzed using a repeated measures Anova (for Cohort I), and a paired *t*-test (for Cohort II). For Cohort I, there were no significant differences between second and third grade performance in reading and language. The descriptive statistics demonstrate that student performance was essentially stable—from the 63rd to 64th percentile in reading, and 71st to 75th percentile in language. There was a significant drop in math, from 84th to 65th percentile. However, students were still well over the national median at the end of third grade (at the 67th percentile). These above-average results were maintained during the fourth grade. None of

Table 5. Follow-up of All LEP Immersion Students on the CTBS*

	Cohort I (N=9)								
	End of second grade (May 1980)			End of third grade (May 1981)			End of fourth grade (May 1982)		
	M*	SD	%ile	M*	SD	%ile	M*	SD	%ile
Total reading	54.8	17.0	60th	55.1	12.3	60th	57.9	13.2	65th
Total language	58.7	20.2	67th	61.8	16.0	72nd	58.8	9.1	67th
Total math	71.1	13.9	84th	57.4	8.5	65th	57.9	11.4	65th
	Cohort II (N=9)								
	End of second grade (May 1981)			End of third grade (May 1982)					
	M*	SD	%ile	M*	SD	%ile			
Total reading	62.7	12.0	73rd	66.2	15.8	78th			
Total language	63.8	18.7	74th	60.0	23.9	68th			
Total math	67.4	14.5	80th	70.3	18.8	83rd			

*in NCE units

the fluctuations from third to fourth grade were significant. Two years after leaving the immersion program, the students were performing well above the national median, at approximately the same level as when they left the program in 1980. No significant differences between second and third grade were found for Cohort II. Again, mean student performance was essentially maintained at levels above the national median.

Effects on the English-speaking students who participated

Table 6 presents the end-of-second-grade data for the 10 (English-speaking) Anglo students in Cohort II. These English-speaking students are all performing well above the national median, and above the median level for the district (which is between the 66th and 70th percentiles). Though the absence of a control group precludes drawing any strong inferences from these data, it appears that program experience was not harmful to these students academically, and may have offered them some real cultural benefits.

Table 6. End-of-Second-Grade Performance on the CTBS for English-Speaking Students in the Program—Cohort II (N=10)

	M	SD	%ile
Total reading	377.7	42.6	79th
Total language	408.1	60.3	77th
Total math	346.0	34	81st

Discussion

These results indicate that the structured immersion program was an effective approach for acquisition of academic skills and proficiency in written English for low-income Asian students entering school with limited proficiency in the English language. This approach appears to be significantly better than what was typically provided for such students. There is also evidence that the program's effects were maintained up to two years after the children completed the program.

Like all quasi-experimental evaluations, the design is far from ideal. As Cook and Campbell (1979) stated, replication of any quasi-experimental design is essential to rule out alternative explanations of the program's effects. The fact that the pattern of effects was replicated for two cohorts of students supports the idea that the effects were due to the intervention and not to characteristics of the particular students, teachers, or aides involved in the study.

These findings parallel those of the Canadian researchers on structured immersion. However, there is one critical difference. Many bilingual educators believe the Canadian results are not applicable to the United States. This view was articulated by Santiago (cited in Aldredge, 1983) who said, "The immersion method, which originated in Canada, has only been tried with middle class children." He argued that immersion may not work for the many low-income Hispanic and Asian students in programs in the United States. However, Rossell and Ross (1984) pointed out that many of the Canadian students did, in fact, come from lower class families. In the present study, the bulk of the students were economically disadvantaged. The structured immersion approach appears to be quite effective for low-income students. The reader should also be reminded that for groups of Asian students such as those at Lockwood School, where at least eight different languages are represented, a structured immersion approach may be much more feasible than a transitional bilingual approach, which would require academic instruction in the eight different languages.

To interpret these results, it is important to isolate the three distinct but interrelated components of the program: (a) the use of structured immersion, (b) the use of direct instruction teaching techniques, and (c) the use of direct instruction (Distar and Corrective Reading/Mathematics) curricula.

It is tempting to look at these results and say that "the simplest interpretation of the...findings is that well-structured programs involving much time on academic tasks are more effective than other types of programs" (Datta, 1984, p. 2-3). The effectiveness of the Distar curricula and the direct instruction model of teaching economically disadvantaged students has been amply documented (Becker, 1977; Stebbins et al., 1977). More recently, Duran (1982) demonstrated that curriculum materials developed according to the instructional design principles articulated by Engelmann and Carnine (1982) led to faster acquisition of mathematical concepts by Hispanic LEP students. The results of this evaluation offer support for Duran's findings—that programs that explicitly teach mathematics strategies in a well-sequenced fashion are more likely to succeed than traditional programs. (See also Gersten, Carnine & White, 1984.)

Furthermore, the recently completed study of effective bilingual classrooms, often called "The Significant Features Study" (Fisher and Guthrie, 1983; Tikunoff, 1983) found that effective bilingual classrooms shared many features with what other re-

searchers (e.g., Good, Grouws & Ebmeir, 1983; Rosenshine, 1983) have found to constitute effective practices for all elementary students—large allocation of time to academics, frequent structured student/teacher interactions, and high student success rates. These were all essential components of the program discussed in this paper. Students spend about two hours a day in briskly paced, structured small group instruction in academics and language, supplemented by approximately one hour of seatwork. (One advantage of a program such as Distar is that the carefully controlled vocabulary and sequential introduction of new concepts allow for one of the cardinal principles of structured immersion—that new material be introduced in English, but at a level understood by the children.)

Is this, then, merely another evaluation of a direct instruction approach, and not an evaluation of structured immersion, as Datta (1984) suggested? There are several reasons to conclude otherwise. The first is that in one respect, these findings are dramatically different than Fisher and Guthrie's (1984) findings on effective practices for language minority students. Fisher and Guthrie reported that in more effective bilingual classrooms, approximately 70 percent of the basic skills instruction was in English; in this program, approximately 95 percent was in English. If nothing else, one is left to consider that the 70 percent level may not be maximal in certain situations, and that research should at least look at structured immersion approaches. It is unclear (and doubtful) whether the *Significant Features* study included any immersion classrooms.

The model developed in this school was an amalgam of direct instruction and structured immersion. The selection and sequencing of curriculum programs, grouping of students, and inclusion of supplemental (English) language development activities were all different from the features of a typical direct instruction classroom serving low-income students.

A study such as this cannot isolate the effects of these three interrelated components, any more than other composite evaluations. As Datta (1984) suggested, only longitudinal evaluations of direct instruction transitional programs and direct instruction immersion programs can provide an "answer." These results do offer some specific directions for program development. The combination of factors involved in this study—immersion coupled with an effective curriculum and empirically validated teaching procedures—are likely to lead to effects in achievement. A structured immersion program without active teaching, careful sequencing, and high student success will not be terribly successful. At the least, these data should help open up the

possibility of districts experimenting with structured immersion approaches. ♦

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Structured English Immersion for Hispanic Students in the U.S.: Findings from the Fourteen-Year Evaluation of the Uvalde, Texas Program

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In their comprehensive review of research on educational approaches for language-minority students in U.S. schools, Baker and deKanter (1982) discuss the paucity of research on structured immersion programs in the U.S., despite the generally positive findings from these types of programs in Canada. A major reason little data is available on this approach is that federal policy in the 1970's made it difficult to implement such programs. This paper reports the results of an evaluation of a structure immersion program that has been in operation in Uvalde, Texas as part of the U.S. Department of Education's Project Follow Through since 1968. Before discussing either the program characteristics or the evaluation findings, it will be helpful to contrast the structured immersion approach with others that are in use.

The solution to developing English proficiency and progressing in other subjects is to teach all subjects in English at a level understood by the students.

Structured English Immersion

Baker (1984) has identified three instructional alternatives for teaching students whose first language is not English: (1) Submersion, (2) Structured Immersion, and (3) Transitional Bilingual Education (TBE).

Submersion is a non-approach. Language minority students are merely placed in a regular classroom with no special help or program modifications to help them succeed. It has been aptly described as "sink or swim." The U.S. Supreme Court has ruled that submersion violates the civil rights of language minority students.

On a superficial level, *structured immersion* may seem similar to submersion. Most of the basic academic instruction in math and reading for the limited-English proficient (LEP) students is conducted in English. However, there is a critical difference. Though most new content is introduced in English, it is *always introduced using vocabulary understood by the students*. Difficult new words are pretaught to the students, sometimes using the child's native language. The native language is rarely used by the teacher, unless it is necessary to help the student understand English language concepts. The philosophy for structured immersion is articulated by Baker (1984):

The solution to developing English proficiency and progressing in other subjects is to teach all subjects in English at a level understood by the students. The curriculum assumes no prior knowledge of English. Language minority students in effect learn English as they learn math, and learn math through English instruction that is understandable at their level of English proficiency. In short, practice makes perfect, and English is best learned by using it as much as possible through the school day. (p. 2)

This was the model used in the primary grades in Uvalde since 1968.

Transitional Bilingual Education (TBE) is the prevalent form of bilingual education in use in this country. In TBE, students are also taught English, but receive most academic instruction (in reading, math, and language arts) in their native language until they master English.

The prevalence of TBE seems to be true mainly as a result of the Office of Civil Rights' response to the Supreme Court decision, the so-called Lau Remedies. The Office of Civil Rights actually used TBE as a standard for evaluating compliance with Title

VII of the Elementary and Secondary Education Act of 1965. Another reason that TBE has seen wide use is that it seems "common sense" to use the child's native language for instruction until he or she masters English. Districts can point to classes being conducted in Spanish, Vietnamese, or Hmong as a clear and visible sign of their recognition of the language-minority children's needs and rights. It is much more difficult to point to the underlying structure of an Immersion program. As a result of these and other factors, school districts, in an effort to comply with Title VII, have generally chosen to implement a program of the TBE type.

Unfortunately, the effectiveness of these transitional bilingual programs has not been clearly established. In their review of 39 research studies, selected from several hundred because of their methodological validity, Baker and deKanter (1982) concluded that TBE has had mixed success. Further, they found that a number of studies supported Immersion, a coordinated English-as-a-Second-Language (ESL) approach, and even Submersion, over TBE.

Research studies conducted on Structured Immersion approaches have been few in number. Of those studies available on Immersion, some have demonstrated impressive gains with middle class students in Canada. Genesee (1976) demonstrated immersion also was effective for low-income Canadian students. Despite the success of immersion in Canada, many argue it will not work in the U.S. For example, Lambert (1984, cited in Baker, 1984) asserts

The story is completely different for language minority young people. Immersion programs were not designed or meant for ethnolinguistic groups in North America that have some language other than English as the main language used in the home. To place such children in an initially all-English instructional program would be to misapply the immersion process in a harmful, subtractive way. Their personal identities, their early conceptual development, their chances of competing or succeeding in schools or in occupations, and their interest in trying to succeed would all be hampered by an immersion-in-English program. Fortunately, practical and valuable alternatives are now available to help these children...

The current paper discusses a program which is based on the principles of structured immersion and compensatory education, models which Tucker feels are inappropriate for low income Hispanic students. Our contention, based on the evaluation findings

The Direct Instruction Model, as implemented in Uvalde, is an example of structured immersion. ...Because of the language-minority population, oral language skills are more heavily emphasized in Uvalde than in other Direct Instruction projects.

discussed below, is that this is a viable, effective model for language minority students. The next sections describe the context of the study, the nature of the educational programs, and an overview of the evaluation findings.

Background

In 1968, the Uvalde, Texas school district joined in Project Follow Through, a federal compensatory program for low SES children in grades 1-3. Uvalde is a small town halfway between San Antonio and the Mexican border at Peidras Negras. Although Uvalde is near some of the largest ranches in the country, much of the population has a low socioeconomic level.

Educational Model

Approximately 85 percent of the students in the program are eligible for free lunch (i.e., classified as low income). The students in the program are Hispanic; many classified as limited English proficient upon entry (ranging from 60 to 80 percent) are classified as LEP. Many students enter first grade speaking only Spanish (Gersten, 1981). Others have learned some English as a second language. Of the 130 students who enter the program each year, about 100 complete the three full years of Follow Through (Gersten, 1983). The national Follow Through Project consisted of twenty different educational models; each local project selected one of the models. Uvalde chose the Direct Instruction Model (Becker, Engelmann, Carnine, and Rhine, 1981). The Direct Instruction Model was implemented in 19 school districts throughout the U.S. with low income populations that included rural blacks, urban blacks, rural whites, Native Americans, and Hispanic students (Becker, 1977; Becker and Gersten, 1982). Uvalde's project is unique in that its students were 98% Hispanic (Gersten, 1983).

The Direct Instruction Model, as implemented in Uvalde, is an example of structured immersion. Distar reading, language, and arithmetic programs are the backbone of the curriculum. Distar is a

structured program using step-by-step instructions where explicit problem solving strategies modeled by teachers become implicit strategies used by students in their independent work. This approach allows immediate corrections of errors based on previous learning. Built into the programs are small group instruction, a high level of verbal interaction, and a large amount of distributed practice. Because of the language-minority population, oral language skills are more heavily emphasized in Uvalde than in other Direct Instruction projects. The Direct Instruction programs are carefully designed so that students will correctly interpret the concept(s) being taught with a minimum of confusion or misinterpretation. A carefully controlled vocabulary is used. Direct Instruction strives to teach needed skills and problem solving strategies in the most effective manner in the shortest period of time to allow disadvantaged students to function at the same level as their peers.

At Uvalde, from two thirds to three fourths of teachers are bilingual, allowing them to provide prompts in Spanish when necessary and expedient.

Another part of the Direct Instruction Model is the thorough monitoring of student progress through the administration of a Continuous Test of program objectives. Using test results and observations to assess effectiveness, on-site supervisors have worked closely with teachers and aides to improve their teaching. Also, outside consultants coordinated by a project manager supplemented local efforts, provided expertise, and assessed and revised the implementation.

Bilingual paraprofessional aides are used along with the teachers to teach the Distar programs in the first and second grades. There is a limited use of aides in grade 3. At Uvalde, from two thirds to three fourths of teachers are bilingual, allowing them to provide prompts in Spanish when necessary and expedient. Teachers of the classrooms with LEP students are always bilingual. A number of teachers originally began as aides in the project, completed teacher preparation programs, and have continued in Uvalde Follow Through as teachers.

All teachers of the classrooms with LEP students are always bilingual. All students are taught days of the week, months, counting, conversations, stories, and songs in both Spanish and English. Other bilingual activities include constructing bulletin boards

that have a Spanish half and an English half, providing directions in both languages if needed, and praising students in Spanish, then English. Over the years, a Spanish version of Distar Language and other bilingual oral language and reading programs have been used with many children, but they have not been a consistent component of the program. Though the amount has varied from year to year and teacher to teacher, the average student in the program probably experiences 10 to 30 minutes a day of instruction in Spanish. Spanish is used primarily as an integral part of the immersion approach.

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Evaluation of the Uvalde Program

Overview

Because this report summarizes results of several evaluation studies (Becker & Gersten, 1982; Becker & Engelmann, 1978; Gersten, 1981; Gersten, Carnine & Keating, 1984), a brief overview of the findings will be presented first, followed by descriptions of each study.

The children evaluated were the Uvalde students who attended Follow Through classes for three full years—first through third grade. Over 85 percent of these students' families qualify as low-income households under Follow Through guidelines. (In one study, only the low-income students are included. The longitudinal research includes all students.) According to Danoff's (1978) evaluation of Title VII, students such as these (i.e., ones in transitional bilingual programs) tend to perform below the 20th percentile in reading and the 30th percentile in math on standardized achievement test. This kind of performance has been recently corroborated in Uvalde, where entering first grade students scored at the 21st percentile in 180 and at the 19th percentile in 1981 on the pre-Reading section of the California Achievement Test (Level II).

The measures used in this study were the Comprehensive Test of Basic Skills (CTBS), the 1970 Metropolitan Achievement Tests (MAT) and the Wide Range Achievement Test (WRAT). Scores on the latter two tests form the basis of the claims presented below. The MAT is one of the more valid

standardized achievement tests (Buros, 1978). The WRAT Reading is a measure of decoding only.

Uvalde is a small community and virtually all of the lowest income students and the majority of LEP students are in Follow Through. Thus, it is impossible to find a local comparison group with equivalent students. In one study, the fifth-sixth grade follow up (Becker & Gersten, 1982), we were able to find a group of comparable students in neighboring communities. This was not feasible on other occasions. Thus a range of quasi-experimental designs were used. Below is an overview of the findings.

The measure of the program's effectiveness with these students is in the weight of the data—its consistency across cohorts over 11 years. This is evident in study one, which details performance in the areas of language, math and reading.

Overview of Findings: Study One

1. At the end of the third grade, the Uvalde Follow Through students consistently *achieved above or near the national norm on the Language subtest of the Metropolitan Achievement Test (MAT)*, a test of skills in using written English. This performance is significantly superior to the level of low-income students nationally (as reported, for example, by Molitor, et al, 1977). This level is significantly above levels for LEP low income Hispanics as reported by Danoff (1978).
2. Uvalde Follow Through students also *perform at, near or slightly above the national median level in MAT Total Math*. This effect has been replicated over eight cohorts of children.
3. Uvalde Follow Through students consistently perform between the 26th and 31st percentiles in MAT Total Reading at the end of third grade. The MAT test vocabulary (word knowledge) and comprehension. While the Reading scores are lower than the Math and Language scores, they are still above levels reported by Danoff (1978), who found low-income Hispanic students in bilingual programs reading at or below the 20th percentile. This was reflected in scores on the reading subtest of the MAT.
4. They consistently made significant gains against the standardization sample of the Wide Range Achievement Test in Reading. WRAT Reading is a measure of word attack skills.

Stability of effects

These effects are replicated over 10 cohorts of children over a 12 year period, demonstrating clearly that the effects are attributable to the intervention (Cook & Campbell, 1979) and can be replicated with a variety of teachers, aides, and administrators.

Relationship between level of teaching and achievement

There is a moderate correlation between the level of implementation of Direct Instruction programs and the achievement gains in reading.

Longitudinal research

Longitudinal follow-up studies have demonstrated enduring effects of the program years after the students leave. There appear to be significant effects in most domains of academic achievement two to three years after students leave the program (Becker & Gersten, 1982). More recent research (Gersten, Carnine & Keating, 1984) demonstrates that the programs have helped diminish the dropout rates for this group of students up through the high school years and it has significantly reduced the number of retentions.

Study One: Norm-Referenced Evaluation of Achievement

1. Table 1 reports the sample size, mean normal curve equivalent, and percentile equivalent (for cohorts 3,4,5 and 6 the mean standard score was converted to an NCE.) Cohorts 3 through 8 were tested on the Elementary form, 1970 version of the Metropolitan, cohorts 10 through 13 on the newer (1978) version. Note the sample sites are quite large, ranging from 84 to 110. Uvalde Follow Through students in the program for three years were above or near the national norm on the MAT Language.

The MAT tests usage, tense, punctuation, and basic grammar. It assesses written English only.

All but three cohorts scored above the national norm and seven cohorts are above the 60th percentile. Such scores are far higher than expected in a disadvantaged bilingual community.

Table 1. Total MAT Language for 11 Cohorts of Students in Uvalde Follow Through (1970-1983)

Cohort	Year began		N	Mean NCE	Percentile
	First Grade				
3	1970		104	59.5	68
4	1971		89	63.5	74
5	1972		91	56	62
6	1973		84	69	82
7	1974		106	59.6	68.7
8	1975		120	54	58
9	1976		NA	NA	NA
10	1977		110	48.5	48
11	1978		103	53.8	57.6
12	1979		101	47.7	48.4
13	1980		97	47	45

2. On the MAT Total Math (Table 2), the Uvalde students in the structured immersion program are consistently above the 30th percentile "standard" in math discussed by Danoff (1978). In fact, six of the cohorts scored at, near, or slightly above the national median level. Again, as Table 2 indicates, this level of performance is replicated over ten of the eleven cohorts, a clear indication that the effect was due to the intervention. Despite the year to year fluctuations, it is apparent the model is producing consistent education effects. Note that the Total Math composite includes not only computation, but also language-related skills in math problem solving and math concepts.

Table 2. MAT Total Math for Uvalde Follow Through Students (1970-1983)

Cohort	N	Mean Nce	Percentile
3	103	51	52
4	89	56	62
5	91	53	56
6	84	53	56
7	106	44.5	40
8	120	44.5	40
9	96	44.5	40
10	110	47	45
11	102	47.6	46
12	102	39.7	31
13	97	43	37

3. Reading performance was assessed with two measures, the MAT and the WRAT. The MAT is a multiple choice test assessing word knowledge (vocabulary) and reading comprehension. The WRAT is an individually administered test of basic oral reading skills. It was used as a supplemental measure. Scores on the MAT are consistently above the 20th percentile, and in five cases they exceeded this mark by an average of ten points. Table 3 presents the MAT data.

The most dramatic results of the model are evident in Table 4. The Direct Instruction reading programs (Distar) heavily emphasize decoding (word attack skills) at the beginning stages of reading.

In all cases, the students make significant gains against the standardization sample of the WRAT. (For the WRAT, a classical norm-referenced design, students are tested on the same form and level of the subject and then progress is compared to that of the norm sample used.) The reader should be alerted to the fact that the standardization sample of the WRAT is small, and far from ideal (unlike the MAT, which

Table 3. MAT Total Reading for Uvalde Follow Through Students (1970-1983)

Cohort	N	Mean Nce	Percentile
3	103	39	30
4	89	36	26
5	91	39	30
6	84	39	30
7	106	36	26
8	120	33.5	22
9	96	33.5	22
10	110	36	26
11	102	38	29
12	102	40	32
13	97	41	34

is a carefully normed test, including a carefully stratified sample which includes language minority students). Nonetheless, the WRAT testing demonstrates significant gains in English language reading.

Uvalde Follow Through students consistently make significant gains against the standardization sample of the Wide Range Achievement Test in Decoding. Note that no claims are made for reading comprehension because of the bilingual program, and of difficulties in assessing growth in this area for bilingual populations (see, for example, Becker, Gersten & Carnine, 1978).

When only those low-income Follow Through students who were tested at both times (pre-first and post-third grade) are considered, the gains in WRAT Reading are more dramatic. Table 4 provides data for paired *t*-tests and magnitude of effects measurements. The largest increase was by Cohort II from the 8th to the 81st percentile, a jump of 73 points. The average gain for all cohorts was 47 percentile points. Each cohort's gain is at least six times as large as the .25 to .33 SD unit gain usually considered to be educationally significant (see Talmadge, 1977).

Evidence of the gains achieved by the Uvalde Follow Through students in decoding are seen as late as fifth and sixth grades (Becker & Engelmann, 1978; Becker & Gersten, 1980). Follow Through students in fifth and sixth grades scored at the 37th and the 42nd percentiles, respectively, on the average on WRAT Reading. Demographically similar fifth- and sixth-graders in nearby communities who did not attend Follow Through had respective mean percentiles at only the 19th and 27th levels. The fifth-grade differences using analysis of covariance (with sex, income level and primary home language

Table 4. WRAT Reading Gains of Follow Through Students Tested Entering First Grade and Leaving Third Grade: Norm-Referenced Comparison

Cohort	N	Pretest (Beginning of 1st Grade)			Post test (End of 3rd Grade)			Significance		
		SS	SD	Percentile	SS	SD	Percentile	t	p	*SD units
2	40	78.9	6.7	8th	112.8	18.0	81st	12.7	.001	2.75
3	68	79.6	6.1	9th	102.0	13.4	55th	16.2	.001	2.30
4	30	78.1	8.9	7th	103.9	15.0	61st	10.5	.001	2.16
5	80	78.0	6.2	7th	106.6	12.4	67th	21.6	.001	3.08

*Magnitude of effects in pooled SD units

as covariates) indicated significant differences favoring Follow Through ($p < .001$ for both grade levels).

Exploratory Research: Linking level of implementation to growth in achievement

During the 1981-1982 school year, all teachers were assessed on the Implementation Rating Form (Gersten, Meyer & Zoref, 1979) by the program director. The form examined aspects of teaching performance deemed central to effective teaching with this model—including immediate corrections of student errors, active involvement of all students in the group in all aspects of the lesson, student success rate, systematic use of praise, and use of criterion-referenced test information to improve instruction. The internal consistency reliability of the form is .92, inter-rater reliability .87 (Gersten, Carnine, Zoref & Cronin, in press). Table 5 presents each teacher's implementation score and the gains in reading (in NCE units) for the class on the Metropolitan Achievement Test.

There is a moderate correlation between the level of implementation of the Direct Instruction model and yearly gains in reading achievement. The correlation for each grade level is, as follows:

Grade 1	.37
Grade 2	.18
Grade 3	.68

Except for second grade, the relationship between quality of teaching is moderate.

Obviously, the findings are exploratory—in need of replications with larger sample sizes. But they do suggest, as does Tikunuff's (1983) findings that the *quality* of teaching within an immersion model (or a TBE model) must be measured, that factors for compensatory educational literature (e.g. Rosenshine, 1982) such as student success rate during lessons, procedures for correcting errors, and clarity of teacher

instructions are likely to have at least moderate effects on achievement performance.

Longitudinal Research Studies of the Later Effects of the Uvalde Program

Fifth-Sixth Grade Study. In the spring of 1975, fifth grade students from the Uvalde Follow Through program were tested on all subtests of the Metropolitan Achievement Test (MAT) and level II of the Reading Section Intermediate Level of the Wide Range Achievement (WRAT). Similar testing was done again for sixth graders in 1976. This was done to determine the later effects of the Direct Instruction method on their academic achievement.

In Uvalde it was not possible to find an equivalent comparison group which were not in Follow Through, since the very poorest were in Follow Through. However, comparison groups were found in three communities within 20 miles of Uvalde which have students with similar backgrounds (La Pryor, Batesville and Sabinal). The same battery of tests from the MAT and WRAT were given to the children in these groups.

Demographic information was collected on income level, sex, primary home language, number of siblings, and mother's education. These variables were used as potential covariates in the analyses. Table 5 shows the levels on these variables between the Uvalde Follow Through (FT) and Non-Follow Through (NFT) local comparison group. As can be seen, the groups are fairly comparable except for slight differences in mother's education and proportion of income. These were corrected by analysis of covariance. On the average, few mothers in either group had more than an elementary school education.

We felt it was important to see if they maintained and built on the progress they had made in the first 3 years of elementary school. The results of the

study are especially interesting in the context of this report, as it was the only time when a local comparison group was used to help measure the relative effectiveness of the Direct Instruction Follow Through program in Uvalde.

Table 5. Comparison of Follow Through (FT) and Non-Follow Through (NFT) Groups in Uvalde on Selected Demographic Variables for the Fifth Grade.

	NFT	FT
Sample Size	86	117
Mother's Ed. Scale ^a	2.34	2.86
Proportion Low Income	.95	.87
Proportion Non-Anglo	.95	1.00
Number of Siblings	6.24	6.09

^a5 = High school graduates

Results

Academic performance by the Uvalde Follow Through students on the WRAT reading and MAT subtests is shown in Table 6. Both statistical significance levels and magnitude of effects (in pooled standard deviation units) are reported. In considering magnitude of effect, .25 is regarded as educationally significant (e.g. Becker & Engelmann, 1977). Strong, consistent effects are found in written language, reading (decoding and comprehension), spelling ($p < .10$), science ($p < .02$), and math problem solving. The effects are strongest on the WRAT reading ($p < .01$), which specifically test decoding ability. This demonstrates that skills that children have truly mastered (such as English, work attack skills, etc.) do not diminish in the years after students have been taught by the Direct Instruction method. Math problem solving effects are consistently stronger than math computation. At first this would seem unusual for a program with a heavy emphasis on acquisition of basic skills. Yet the finding is consistent with the emphasis on the Distar arithmetic programs on teaching general-case problem-solving strategies, including basic algebraic principles. It appears that students were able to use the skills they learned in the primary grades to solve more advanced word problems. However, they were not learning the arithmetic computations typically taught in the intermediate grades (long division, borrowing) at the same rate.

Table 6. Mean Magnitude of Effects (in Pooled Standard Deviation Units) Follow-up of Uvalde Students who Began First Grade in 1970 (Cohort 3)

	5th Grade (in 1975)	6th Grade (in 1976)
N=	117	108
Test		
WRAT reading, Level II	.47	.52
MAT word knowledge	.03	.19
MAT reading (comprehension)	.21	.20
MAT language	.13	.39
MAT spelling	.01	.25
MAT math computation	.11	.04
MAT math concepts	.10	.31
MAT problem solving	.33	.23
MAT science	.15	.36

When considered in respect to findings from the other four sites in this of the fifth and sixth graders, we find that none of the outcomes significantly favored the comparison groups at the .05 level, and 31 percent favored the Uvalde Follow Through group. Thus, it is extremely unlikely that these results were due to chance.

It is reasonable to conclude that if students learn skills and problem solving strategies well, they do not lose this knowledge. Furthermore, without effective instruction which continues to build on these skills in the intermediate grades, the children are likely to lose ground against their middle income peers. In fact, limited English-speaking students such as the Uvalde students appear to lose the most.

Effects Up Through the High School Years

The data that follows is a summary of a follow up study comparing cohorts 1 and 2 to demographically similar students in Uvalde who began first grade in 1966 and 1967. Students from the two years prior to Follow Through 1966 and 1967 are labeled cohorts A and B and are compared with those from the first two years of Follow Through cohorts 1 and 2. Unlike the fifth and sixth grade study, an interrupted time series design is used. (A large number of students in all four of the annual classes failed to remain in the community for the entire 12 years. The percentage remaining in the community for the entire twelve years 1966 to 1969 respectively, were 43.1%, 41.6%, 60.7% and 44.1%. These figures are quite typical for longitudinal studies of this nature.

The figures given in the results reflect data only on the students who did reach high school for some period of time.)

A preliminary analysis of the high school data shows that the Direct Instruction students:

- are more likely to receive a high school diploma,
- are less likely to be retained in any grade,
- show better attendance in 9th grade.

The results did not show appreciable differences between ninth grade Follow Through and Non-Follow Through students in achievement scores or high school grades averages, but such differences are likely concealed by the differences in retention and dropout rates. If lower performing students are given an extra year to learn, they can make gains that would help to mask a Follow Through advantage.

Tables 7 and 8 show that a higher percentage of Follow Through students graduated than for the two preceding classes of students. Table 9 shows that there were fewer retentions among Follow Through students, and especially after the first year.

Finally, 1968 and 1969 Follow Through students had a higher proportion of acceptable attendance (less than 10 absences per year) while in high school than comparison students (68.9% and 83.3% respectively).

Discussion

These findings strongly suggest that the structured immersion approach had a consistent, positive effect on the academic achievement of the language minority students in Uvalde who were involved. Achievement levels at the conclusion of the program have been at or near grade level in mathematics and written language for over a decade. Performances on tests of oral reading are also above grade level. Scores in reading comprehension/vocabulary are at the 28th to 31st percentile, appreciably above typical levels for low-income Hispanic students.

Follow up studies conducted two and three years after the students left the program indicate significant, enduring effects in

achievement—particularly in the areas of oral reading, math problem solving, comprehension, and science. The data suggest that the skills the students learned to mastery during the primary grades (basic oral reading strategies from Distar reading, generalized strategies for solving mathematical problems, and to some extent, basic comprehension strategies) are retained. But students are not learning new skills (e.g., new computational skills, new vocabulary concepts) at an acceptable rate in a regular public school setting. This was true for Uvalde as well as English-speaking sites (such as Dayton, Ohio) included in the Becker and Gersten study (1982). We would argue that some of the features of the Direct Instruction program, particularly those supported by the teacher effectiveness literature (e.g.,

Table 7. Results of the Twelve Year Longitudinal Study

Cohort	Year Began First Grade	N	% Graduating from High School
Comparison			
A	1966	103	37.9
B	1967	97	42.3
Follow Through			
1	1968	87	59.8
2	1969	47	53.2

Table 8

Cohort	Year Began First Grade	N	% Dropout from High School
Comparison			
A	1966	103	60.1
B	1967	97	57.7
Follow Through			
1	1968	87	40.2
2	1969	47	46.8

Table 9

Cohort	Year Began First Grade	N	% Dropout from High School
Comparison			
A	1966	110	43.2
B	1967	111	46.8
Follow Through			
1	1968	94	42.5
2	1969	62	23.0

Brophy & Good, in press) should be continued in the fourth through sixth grades. We also see a need for intensive work in English language vocabulary development, more than is currently provided by basal reader series (Becker, 1977; Beck, 1984). Nonetheless, the program, as currently implemented, appears to have enduring effects on the lives of its participants, at least the academic aspects of their lives. The later effects study in high school demonstrated that students in the program were (a) less likely to drop out of school, (b) less likely to be retained sometime during fourth through twelfth grades, and (c) more likely to attend high school regularly. (No effect was found for 11th grade achievement; however, this effect may have been confounded by differential dropout and retention rates.) Noting the extremely high dropout rate for Hispanic students nationwide, these findings should be considered seriously. ♦

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School-Wide Application of Direct Instruction: Spelling Mastery at Yeshiva

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Yeshiva College Primary School is an orthodox Jewish school in Bondi, New South Wales, Australia. There are approximately 360 pupils presently enrolled. The school has a religious, rather than purely academic, focus. Over one-third of the school day is devoted to Jewish Studies. To maximize the limited instructional time available for secular studies, the Headmaster sought a method of teaching which would enable students to master knowledge and skills as efficiently and effectively as possible. The Direct Instruction (DI) approach was selected.

DI has been in operation at Yeshiva College Primary School since 1982. It has been applied across all class levels in the subject areas of reading, spelling, language, mathematics and expressive writing. It has been used with all children in the school, including those labeled as gifted, A.D.D., "normal", "learning disabled", "physically disabled", "behaviorally disturbed" and ESL. The school has an ESL population of approximately 25% due to the high proportion of students from Israeli or Russian backgrounds.

DI refers to the behavioral education model developed at the University of Oregon during the 1960's by Siegfried Engelmann, Wes Becker and associates (Maggs & Maggs, 1980). The Direct Instruction model became part of Project Follow Through, involving over 20,000 disadvantaged children across the United States and 22 different instructional models. It was the largest social experiment ever conducted and the results indicated that DI tended to produce higher academic gains than other forms of instruction with which it was compared (Carnine, Grossen & Silbert, 1992; Kinder & Carnine, 1991; O'Connor, Jenkins, Cole & Mills, 1993).

Direct Instruction can be characterized by a number of features including explicit step-by-step strategies and rules, student mastery, example selection, example sequencing, specified error corrections and formative testing coupled with cumulative review (Kinder & Carnine, 1991, O'Connor, et al., 1993). Although DI has features in common with behavioral and precision teaching programs, it differs in

its emphasis on the logical analysis and careful programming of concepts and tasks (Maggs & Maggs, 1981).

The purpose of this study was to evaluate the effectiveness of the application of one of the DI programs at Yeshiva—Spelling Mastery (Dixon & Engelmann, 1990).

Related Research

Evaluations of DI programs have demonstrated them to be effective in many variable circumstances including: "normal" children in regular classrooms; children with mild, moderate or severe skill deficits in regular classrooms; withdrawal classes; disadvantaged schools; schools for children with mild, moderate or severe intellectual disability; and children in schools for pupils with a physical disability (Condon & Blaney, 1995).

Meta-analysis techniques employed by White (1988) examined the effects of DI on achievement of special education students. He found that no measure in any of the 25 studies significantly favored the comparison group; whereas over half of the measures significantly favored the DI groups. The average effect size was .85, which is quite considerable (Kinder & Carnine, 1991).

DI has been successfully implemented on a school-wide basis. A basic skills program had been in operation at Big Piney Middle School, Wyoming, USA for seven years. It consisted of corrective DI programs for reading, math, expressive writing and spelling. Initially, most of the students were two or three years behind their grade level (Sommers, 1995). "Using DI, more than a month was gained each month for each subject when the 112 students' scores were averaged" (ibid., p. 29).

Similar results were obtained with at-risk students at St. Helens Elementary School, Washington. Significant improvements in reading and language were made by first and second graders over a school year. This led to the school-wide implementation of DI reading and language programs (Maher, 1990). The introduction of DI at Belmont Community School, Massachusetts in 1984 also led to impressive

school-wide results. The school principal attributes the academic success and boost in the children's self-esteem to DI (Becker, 1991).

Educators have often presumed that DI teaching strategies and programs are only useful for students with learning difficulties (Clunies-Ross, 1990). Results of a study by Clunies-Ross (1990) challenge this, as he found that regular primary students made significantly higher intellectual gains as a result of being taught using the DI program *Corrective Reading*. This extended the early findings of Noon and Maggs (1980) who reported that "normal" and "gifted" upper primary students gained between 5 and 8 years above their chronological ages on a comprehension test after only one year on a DI reading program (*ibid.*, p.19).

Australian investigations into Direct Instruction during the 1970's and early 1980's showed it to be effective for learners over a wide range of content areas and student abilities (Condon & Blaney, 1995; Maggs & Maggs, 1981). There has been little research into Direct Instruction over the last ten years in Australia as it has had limited use in an educational climate favoring more "holistic" methods. However, Condon conducted a study in 1995 which attempted to gain some insight into the instructional efficacy of a DI program called *Teach Your Child to Read in 100 Easy Lessons* (Engelmann, 1983). His results were consistent with previous research into the effectiveness of DI technology. The subjects made what was regarded as educationally highly significant gains for reading accuracy and comprehension (Condon & Blaney, 1995).

The DI approach to spelling was developed into programs by Robert Dixon in 1976. In the Spelling Mastery program, the students first learn phonemic generalizations and then switch to a meaning-based (morphemic) emphasis. Morphemes are units of meaning in words, including prefixes, suffixes and word bases. A relatively small number of units can be combined to produce a large number of words (Dixon, 1991). Rules governing the spelling of plurals, affixes, possessives, irregular endings are introduced through the use of DI techniques. The aim is for students to generalize their spelling to similar patterns (Heron, Okyere & Miller, 1991). This approach was consistent with Hanna's (1971) conclusion that mastery of half or more of English orthography is dependent upon morphological information (Dixon, 1990).

Spelling Mastery employs the DI strategies of choral-responding, careful sequencing of presentation stimuli and corrections, task-analysis and sound identification, all of which are supported by re-

search evidence (Carnine, 1976, 1987, 1992; Greenwood, Delquadri & Hall, 1984; Kinder & Carnine, 1991; McKenzie and Henry, 1979 cited in Heward, Courson & Marayan, 1989; O'Connor, Jenkins, Cole & Mills, 1993; Stevens, Slavin & Farnish, 1991; Van Houten & Van Houten, 1991; Weisberg, 1990).

Dixon (1991) cites substantial theoretical support for incorporating morphology in both reading and spelling instruction including Chomsky (1970); Chomsky & Halle (1968); Hodges and Rudorf (1966); Liberman (1982); Robinson & Hesse (1980); and Simon & Simon (1973).

Australian studies of DI spelling programs again highlight the effectiveness of the approach. Maggs, McMillan, Patching & Hawke (1981) obtained dramatic results in a study involving Morphographic Spelling. Students who had been 'losing ground' were found to gain between 11 and 15 months on the Schonell Graded Word Spelling Test after only 8 months of instruction (Maggs et al., 1981). The results were replicated in three other studies using norm-referenced comparisons (Lockery & Maggs, 1982).

Method

Subjects

The subjects consisted of:

—Twenty-two female Year Six students from Yeshiva College Primary School who were on the Spelling Mastery (Level F) program. Instruction on the program consisted of one hundred and twenty 20-25 minute lessons per year (approximately 3 lessons per week).

—Fourteen teachers. Experience using the Spelling Mastery programs ranged from two months to fifteen years.

Instruments

The South Australian Spelling Test (Westwood, 1979) was administered to the group of students. Students, seated separately, were issued with a piece of paper numbered from one to seventy. Each word was read out and placed in a meaningful sentence as per the test script. Students were encouraged to attempt as many words as possible. The test manual provides spelling test-reporting ages, average scores, normal ranges and critical low scores. From the known reliability of the test, the standard error of measurement has been calculated, which is rather less than ± 2 marks on the raw score at each age level.

Also, the Proof Reading Tests of Spelling (NZCER, 1980), or PRETOS, was administered. Year Six Test 5 Yellow was used. It is a broad measure of a

student's ability to discriminate between misspelled words and correctly spelled words when both are presented in the context of meaningful paragraphs. The students were allowed up to thirty minutes to complete the test. Percentile rank scores are provided. Production scores and recognition scores can be calculated, but for this study only the production score was used, as this requires the student to spell the word correctly as well as recognizing the error.

Before the students commenced the PRETOS test, they completed the Student Questionnaire (Appendix A). It is a 12 item Likert-type questionnaire designed to measure student attitudes toward spelling and, more specifically, the Spelling Mastery program.

The fourteen members of the secular staff were asked to complete a four item open-ended survey about Spelling Mastery which included items related to student achievement and satisfaction, and teacher's satisfaction (Appendix B). Participation was anonymous. This was done to limit the possibility that staff members would fear judgement of their responses and answer accordingly.

Student ages were calculated as of the 9th of August, 1996. Student I.Q. scores were obtained from school records. The TOLA 6 (ACER, 1976) had been administered to the class by the headmaster during March, 1996.

Data Analysis

The mean and standard deviation were calculated from raw scores on the South Australian Spelling Test for the group of pupils. The "spelling age" was calculated for each individual. Also, the raw score mean was converted to a group "spelling age". Percentile rank scores were obtained for each student on the Proof Reading Tests of Spelling. The mean and standard deviation were calculated for the group. The mean and standard deviation were also obtained for I.Q. scores.

Each pupil's responses on the Student Questionnaire (Appendix A) were scored using the 1 to 5 Likert Scale. This allowed a possible range from 12 (strongly agree on all items) to 60 (strongly disagree on all items), taking into account that scoring was reversed for negatively stated items. The mean and standard deviation were calculated.

Each of the 12 items was also scored. The possible range for this measure was from 22 (all students strongly agree) to 110 (all students strongly disagree). The mean and standard deviation for the items were calculated. Percentages of students who strongly agreed or agreed with each item were determined then averaged. Items were classified under four headings: Perception of Own Ability; Atti-

tude Toward Spelling; Program Effectiveness, Level and Delivery; and Perception of Parental Satisfaction. Subtotal means for each of these headings were provided.

The responses to the open-ended Teacher Questionnaire (Appendix B) were analyzed and reported in terms of the number of positive, neutral and negative comments. The comments were grouped according to common themes.

Limitations

The study is descriptive. No pretest data is available to measure student gains on the Spelling Mastery program. The study does not control for cultural, socioeconomic or chance effects. Noteworthy at this point is that the Jewish population is one of the ethnic groups which, research suggests, has a disproportionately high incidence of identified giftedness and superior school achievement (Richert, 1991).

"Spelling age" provided by the South Australian Spelling Test should be interpreted with caution as the "norms" provided are a result of testing South Australian children in 1978. Also, the standard error of measurement for the test has been calculated at rather less ± 2 marks on the raw score (Westwood, 1979). This indicates that a spelling age may actually fall within a range of up to 18 months—possibly making it less than a meaningful measure.

I.Q. scores on the TOLA 6 obtained from school records are based on a New South Wales standardization completed over twenty years ago.

It is recognized that issues other than the effectiveness of Spelling Mastery may affect the outcome of the questionnaires. For example, the Headmaster of the school, who introduced DI into the school 14 years ago, is about to retire. The future direction of the school curriculum is in doubt. Also, I have been a supporter of DI programs in the school and a member of the school executive. Though anonymity in the survey is assured, staff and students may be apprehensive about expressing negativity toward the program.

Results

Tests

Table 1 presents students' test results. I.Q. scores ranged from 137 to 78. The nine pupils who have an I.Q. score of 110 and above averaged a raw score of 55.5 on the S.A.S.T. which converts to a spelling age of >15y 6m. The eight students with an I.Q. score between 100 and 109 inclusive averaged a raw score on the S.A.S.T. of 53.6 which also converts to a spelling age of >15y 6m. The five students with an

Table 1. Each Student's age, spelling test results and I.Q. scores

Pupil	Age at 9/8/96	S.A.S.T.) (r.s.)	S.A.S.T. spelling age	Pretos (r.s.)	Pretos % ile	I.Q. (TOLA)
1	11y 0m	66	>15y 6m	50	99	137
2	12y 3m	63	>15y 6m	50	99	106
3	11y 3m	63	>15y 6m	49	98	123
4	11y 6m	60	>15y 6m	46	92	122
5	11y 6m	58	>15y 6m	47	95	119
6	11y 3m	57	>15y 6m	42	81	114
7	12y 0m	57	>15y 6m	49	98	100
8	12y 1m	56	>15y 6m	48	97	104
9	11y 5m	56	>15y 6m	48	97	100
10	11y 9m	53	15y-15y 6m	43	84	90
11	11y 9m	52	14y8m-14y11m	49	98	129
12	11y 5m	52	14y8m-14y11m	32	53	89
13	11y 9m	52	14y8m-14y11m	46	92	100
14	12y 5m	52	14y8m-14y11m	38	70	105
15	11y 8m	50	13y 8m-14y 2m	45	89	117
16	11y 9m	49	13y 2m-13y 7m	36	65	106
17	11y 10m	48	12y10m-13y1m	48	97	121
18	11y 11m	48	12y10m-13y1m	32	53	93
19	12y 4m	46	11y9m-12y1m	34	59	97
20	12y 2m	46	11y9m-12y1m	38	70	78
21	11y 1m	46	11y9m-12y1m	40	75	110
22	11y 3m	44	11y3m-11y5m	33	56	100
Mean	11y 8m	53.36	15y-15y 6m	42.86	84	107.27
S. D.		9.59		9.95		27.92

I.Q. score below 100 averaged 49 which converts to a spelling age of 13y 2m - 13y 7m. This is still well above the chronological age mean of these five students—11 years 11 months.

All but two of the students scored above the test's norms. These two students were within the normal range, one mark below the norm for their age. Because the norms for any achievement test may no longer be reliable after a period of fifteen years, normative data for the S.A.S.T. was obtained again in 1993 (Westwood, 1993). If this data was used to assess the results, the entire group of twenty-two students scored above the average score for the relevant age groups. This is due to the fact that the 1993 norms have fallen below those of the 1978 norms (Westwood, 1993). However, a revised edition of the 1978 S.A.S.T. incorporating the 1993 data is yet to be published. There is no approximation of spelling ages available for the 1993 survey, therefore, the 1978 norms are the ones reported in this study.

Eighty-one percent of the students scored at least one year above the average for their age group on

the 1978 norms, and sixty-eight percent of the students scored at least two years above the average.

The mean chronological age for the group was 11 years 8 months. The mean age for the top seven students as measured by the S.A.S.T. was 11 years 6 months, whilst it was 11 years 9 months for both the seven middle and eight bottom ranked students indicating that age was not a factor related to superior performance.

Results of the PRETOS show that the percentile rank norms (that is, the proportion of pupils falling at or below that score) ranged from 99 to 53. No student was in the bottom 50%. The mean raw score of 42.86 converts to a percentile rank of 84. Half the group were ranked 90 or above.

Student Questionnaire

Table 2 shows the results of the Student Questionnaire. Each student's 12 responses were scored between 1 and 5, and then added to give a total score. The minimum possible score was 12 (most favorable toward spelling), and 60 was the maximum possible score (least favorable toward spelling). Reverse scoring was used for negatively stated items.

Table 2. Student Questionnaire: Summary of responsesStudent Scores $N = 22$

(1 - 5 Likert Scale multiplied by 12 items)

12	24	36	48	60
Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree

#Reverse scoring for negatively stated items.

Mean: 28.13 Standard Deviation: 6.16

The student response scores on the Likert scale ranged from 20 (the most positive) to 40 (the most negative). The mean was 28.13, well within the positive range. Eight students scored within the most positive range of 24 or less. Twelve students scored within the still positive range of between 25 and 35. Two students had scores in the negative range (above 36, the midway point).

The Individual Statement Scores are shown in Table 3. Each statement's 22 responses were scored between 1 and 5, and then added to give a total score. The minimum possible score for any individual statement was 22 (most favorable), and 110 was the maximum possible score (least favorable). Percentages of agreement/disagreement were also calculated. Reverse scoring of scores and percentages was used for negatively stated items.

Table 3. Student Questionnaire: Summary of responsesIndividual Statement Scores $N = 12$

(1 - 5 Likert Scale multiplied by the 22 respondents.)

22	44	66	88	110
Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
Statement	Likert Scale Total		% Agree or Strongly Agree	
#(Reverse scoring for negatively stated items)				
Perception of Own Ability				
I am a good spell		44		86 %
Attitude Toward Spelling.				
#Spelling is something I do not care about.		43		72 %
#Too much time is wasted on spelling lessons.		53		63 %
Spelling is one of my favorite subjects.		56		63 %
Spelling lessons are enjoyable.		67		41 %
#Spelling lessons are boring.		62		50 %
Sub Total Mean		56.2		57.8 %
Program Effectiveness, Level and Delivery.				
Spelling Mastery has improved my spelling.		54		68 %
#Spelling lessons are too easy for me.		60		45 %
#Spelling lessons are too hard for me.		35		100 %
Yeshiva teachers are good at teaching spelling.		53		68 %
Children at Yeshiva have been taught to spell well		49		68 %
Sub Total Mean		50.2		69.8 %
Perception of Parental Satisfaction.				
My parents are happy with my progress in spelling		43		72 %
Total Mean		51.58		66.3 %
Standard Deviation		9.21		

Table 1. Each Student's age, spelling test results and I.Q. scores

Pupil	Age at 9/8/96	S.A.S.T.) (r.s.)	S.A.S.T. spelling age	Pretos (r.s.)	Pretos % ile	I.Q. (TOLA)
1	11y 0m	66	>15y 6m	50	99	137
2	12y 3m	63	>15y 6m	50	99	106
3	11y 3m	63	>15y 6m	49	98	123
4	11y 6m	60	>15y 6m	46	92	122
5	11y 6m	58	>15y 6m	47	95	119
6	11y 3m	57	>15y 6m	42	81	114
7	12y 0m	57	>15y 6m	49	98	100
8	12y 1m	56	>15y 6m	48	97	104
9	11y 5m	56	>15y 6m	48	97	100
10	11y 9m	53	15y-15y 6m	43	84	90
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14	12y 5m	52	14y8m-14y11m	38	70	105
15	11y 8m	50	13y 8m-14y 2m	45	89	117
16	11y 9m	49	13y 2m-13y 7m	36	65	106
17	11y 10m	48	12y10m-13y1m	48	97	121
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#Spelling is something I do not care about.		43		72 %
#Too much time is wasted on spelling lessons.		53		63 %
Spelling is one of my favorite subjects.		56		63 %
Spelling lessons are enjoyable.		67		41 %
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Program Effectiveness, Level and Delivery.				
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#Spelling lessons are too easy for me.		60		45 %
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Yeshiva teachers are good at teaching spelling.		53		68 %
Children at Yeshiva have been taught to spell well		49		68 %
Sub Total Mean		50.2		69.8 %
Perception of Parental Satisfaction.				
My parents are happy with my progress in spelling		43		72 %
Total Mean		51.58		66.3 %
Standard Deviation		9.21		

The lowest scoring statement on the Likert scale was *Spelling lessons are too hard for me*, that is, it is the most disagreed with statement (all students disagreed). The statement *Spelling is something I do not care about* also had strong disagreement levels (72%) and *My parents are happy with my progress in spelling* was just as strongly agreed with (72%).

Spelling lessons are enjoyable had the highest score on the Likert scale with a score of 67, making it the only statement to go beyond the midway point of 66 into the negative range (41% agreement). An equal amount of students (41%) disagreed with this statement, whilst the remaining 18% of students were unsure if they agreed or disagreed that spelling lessons were enjoyable. 50% of students disagreed that *Spelling was boring*, 36% agreed, whilst the remainder were unsure. A majority of students (63%)

agreed that spelling was one of their favorite subjects. Overall, responses relating to 'Program Effectiveness, Level and Delivery' were more positive than those relating to 'Attitude Toward Spelling'. The statements *Spelling Mastery has improved my spelling*, *Children at Yeshiva have been taught to spell well* and *Yeshiva teachers are good at teaching spelling* all had a 68% level of agreement.

The mean score on the Likert scale for the Individual Statements was 51.58, again within the positive range. On average, 66.3% of students agreed with positively stated items and disagreed with the negatively stated items.

Table 4 is a summary of teachers' responses to the Teacher Questionnaire (Appendix B).

Thirteen of the fourteen teachers who were issued with the survey to complete, did so. The most

Table 4. Summary of Teacher Responses

* Denotes the number of times a comment appeared.

	Positive Comments	Neutral Comments	Negative Comments
Student Achievement	*****High standard ***Know and apply rules ***Good transfer **Success/mastery by the whole group **High test results *Class average 92%+ *Great skills *Pride in work	*Not 100% transfer, but better than expected *Words still need to be practiced at home *Difficult for new pupils to pick up half-way through	*Children with learning difficulties struggle *Lack of transfer *High level of workbook errors, even though test performance is high
Student Satisfaction	*****Especially enjoy built-in games and puzzles *****Satisfaction and pride in results *Highly motivated *Feel comfortable and participate well	*No objections, but no enthusiasm either	*Capable children become bored with repetition
Teacher Satisfaction	*****Pleasing student results *****Program is quick and easy to teach **Allows support for individuals within whole-class instruction *Sometimes fun	*Don't mind doing it	*Can be repetitive and inflexible which can be frustrating
Other	*****Time-efficient *****Well sequenced, small step progression **Regular assessment **Best program I've ever taught *Word lists are included for extra study	*Greater emphasis on word meanings would be useful	**Children at top and bottom of class aren't adequately catered to

frequently mentioned comment (8 times) was under the heading of 'Teacher Satisfaction'. The comment was that the high standard and pleasing performance of students was responsible for teacher satisfaction with the program.

The most frequently mentioned comments related to high levels of student achievement; pride in results by teachers and students; the children's enjoyment of the program's built in games and puzzles; quick and easy delivery of lessons; and the excellent design of the program.

All but one of the negative comments came from the same response sheet. The most often a negative comment occurred was twice. It stated that the program did not adequately cater to all ability levels within a class. Eleven of the respondents only made positive or neutral comments. Overall, there were a total of 68 positive comments and 7 negative comments—a ratio of almost 10 to 1.

Discussion

From the results, it would appear that Spelling Mastery has a high degree of effectiveness at the school in question. The children perform well above expected norms, have generally favorable attitudes toward spelling and the teachers have overwhelmingly positive views about the program.

All children appear to be able to acquire spelling skills at least at a level commensurate with age peers, if not above. Even a student with an I.Q. measured at 78 has scored well within the normal range as indicated by standardized tests. Children who may be classified as gifted on the basis of I.Q. scores have not experienced a 'ceiling' effect, sometimes associated with programs pitched at too low a standard, but have achieved adult level spelling status.

The children are confident in their ability to spell and perceive spelling to be important. Interestingly, all students disagreed that spelling lessons were too hard for them, whilst 45% agreed that they were too easy. Mastery learning is a feature of the programs. If a student is performing at a level below approximately 85%, interventions such as pre-teaching; increased individual turns during oral responding; and peer tutoring may be employed. It is unlikely that children will feel that the work is too difficult with this kind of emphasis on mastery learning.

The majority of students thought of spelling as one of their favorite subjects, although approxi-

mately 41% of the group felt that spelling lessons were boring or not enjoyable. This may reflect a generally unenthusiastic attitude toward formal work by some students who were nearing the end of their primary schooling. Also, drill and practice are components of the program. Students who are achieving such high results may fail to see the link between these particular components and their attainment of skill mastery. However, of the eight students who agreed that spelling lessons were boring, all but two agreed that Spelling Mastery had improved their spelling. The attitude of this particular class toward the teacher may also have a bearing on enjoyment levels of Spelling Mastery.

Boredom of students was only mentioned once on the Teacher Questionnaire whilst enjoyment was mentioned six times in relation to the program's built-in games and five times in general terms. This may indicate that either the teachers are not in tune with the students' feelings; or that the younger classes enjoy the program more than the surveyed Year Six. Based on the observation that students' enthusiasm toward formal schoolwork tends to wane as students progress through the grades, the latter seems more probable.

The teaching staff was proud of the students' achievements. The overwhelming positive response to the program by the teachers was quite surprising considering that 6 of the 14 teachers have used DI programs for less than 2 years and 8 teachers have received no formal training on DI programs. Supervised experience in DI has been found to increase positive attitudes toward it (Proctor, 1989).

Conclusion

Whilst acknowledging the major shortcomings of the research design (see section headed 'Limitations'), the findings were consistent with previous research into the effectiveness of the DI methodology. It is possible to suggest that DI was partly responsible for the outstanding performance of the Year 6 students on measures of spelling ability.

This study raises some issues deserving further investigation. Studies employing true experimental design could be conducted to examine the effects of Direct Instruction on spelling skills of children in New South Wales primary schools. If spelling is a desired but lacking skill, Direct Instruction may be a solution. ♦

Appendices follow.

Appendices

APPENDIX A STUDENT QUESTIONNAIRE

Directions: Please circle the response that most closely matches your agreement/disagreement with each statement.

- 1) SA = Strongly Agree
- 2) A = Agree
- 3) NS = Not Sure
- 4) D = Disagree
- 5) SD = Strongly Disagree

	1	2	3	4	5
1. I am a good speller.	SA	A	NS	D	SD
2. Spelling is something I do not care about.	SA	A	NS	D	SD
3. Spelling Mastery has improved my spelling.	SA	A	NS	D	SD
4. Spelling lessons are too easy for me.	SA	A	NS	D	SD
5. Spelling is one of my favorite subjects.	SA	A	NS	D	SD
6. Children at Yeshiva have been taught to spell well.	SA	A	NS	D	SD
7. Too much time is wasted on spelling lessons.	SA	A	NS	D	SD
8. Spelling lessons are enjoyable.	SA	A	NS	D	SD
9. Spelling lessons are too hard for me.	SA	A	NS	D	SD
10. Yeshiva teachers are good at teaching spelling.	SA	A	NS	D	SD
11. Spelling lessons are boring.	SA	A	NS	D	SD
12. My parents are happy with my progress in spelling.	SA	A	NS	D	SD

APPENDIX B

TEACHER QUESTIONNAIRE

UNIVERSITY PROJECT.

*** DO NOT INCLUDE YOUR NAME. ANONYMITY AND CONFIDENTIALITY ARE ASSURED.

Please take some time to respond to the following.

YOUR REFLECTIONS ABOUT THE SPELLING MASTERY PROGRAM.

Student Achievement: _____

Student Satisfaction: _____

Teacher Satisfaction: _____

Other (e.g., program design; time allocation; placement levels; etc.): _____

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CONTRIBUTOR'S GUIDELINES

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LIST OF DEMONSTRATION SITES: We wish to maintain an on-going list of school sites with exemplary implementations and impressive student outcomes. Submit the name of the exemplary school or classrooms, the names of the programs being implemented, and contact information so that visitations may be arranged.

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

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The persons below are organizing local ADI chapters. They plan to form local support groups and to sponsor local workshops, discussion groups, and newsletters. Contact the person nearest you for more information on local chapters. If your name is not on the list and you would like to form a local chapter, contact ADI, PO 10252, Eugene, OR 97440 or call (503) 485-1293.

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What Was That Project Follow Through?

Effective School Practices, Winter, 1996, Volume 15, No. 1

ABSTRACT: Find out about the largest, most expensive educational experiment in history. What were the results? Why weren't they publicized? In the history of education, no educational model has ever been documented to achieve such positive results with such consistency across so many variable sites as Direct Instruction.

Planning for a Direct Instruction Implementation

Effective School Practices, Summer, 1995, Volume 14, No. 3

ABSTRACT: A workbook and guidelines provide a framework for planning a Direct Instruction implementation. The planning stages include: 1. Feasibility planning (Does the school have the support and resources to begin a DI implementation?), 2. Setting specific school policies (What policy changes regarding grouping and scheduling, report cards and discipline, inclusion and evaluation, substitutes and so on, need to be made?), 3. Deciding on the scope of the first year's implementation (Given the support and limitations, what level of implementation should the school schedule for the first year?), 4. Budget planning (What will the DI implementation cost?). A full set of placement tests for *Reading Mastery*, *Reasoning and Writing*, *Spelling Mastery*, and *Connecting Math Concepts* are included. The planning guide is particularly appropriate for the school administrator or leader.

Handbook for Grassroots Reform

Effective School Practices, Winter 1995, Volume 14, No. 1

ABSTRACT: An article by Russell Worrall and Doug Carnine describes the problem to solve: the irrationality of top-down educational decision-making. Individual school communities that wish to use a more rational process are provided with reference materials and guides for establishing bottom-up reform, particularly in the selection of the teaching practices and tools (textbooks, technology, media, software, and so on). A Handbook for Site Councils to use to improve schools guides local site councils in obtaining reliable information about what works, that is, site councils should select validated practices and tools or cautiously monitor the implementation of unvalidated practices. Reliable information is usually available in the form of research studies. Because research is often mis-

used and abused, a guide for using research to identify superior teaching practices and tools is also provided.

Twenty Years of Effective Teaching

Effective School Practices, Fall 1994, Volume 13, No. 4

ABSTRACT: Two keynote addresses by Sara Tarver and Jean Osborn at the summer conference provide an overview of the history of Direct Instruction. Headline news articles featuring Direct Instruction and/or disappointing results from trendy approaches are reprinted. An exchange of letters between a Montana parent and the National Council of Teachers of Mathematics highlights issues regarding school adoption of unproven, faddish methods, textbooks, and philosophies. The NCTM is unable to provide evidence that the teaching methods they promote improve learning. NCTM claims there are no measures that assess the kinds of outcomes they wish to achieve. They expect to have a guide for assessment published in 1995, 4 years after the guide for teaching practice was published. The Montana parent argues that the assessment should be used to evaluate the practices before they are promoted nationwide.

OBE and World Class Standards

Effective School Practices, Summer 1994, Volume 13, No. 3

ABSTRACT: This issue is a critique of outcome-based education. Criticisms from educational researchers and from the American Federation of Teachers are featured. Positive suggestions for education reform legislation are offered, as well as some guidelines for evaluating standards. The standards of most states are criticized for their lack of rigor, for their non-academic focus, and for their evaluation systems that do not provide information regarding the effectiveness of the school programs, but rather only evaluate individual students.

Achieving Higher Standards in Mathematics

Effective School Practices, Spring 1994, Volume 13, No. 2

ABSTRACT: The standards from the National Council of Teachers of Mathematics prescribe teaching practice more than they set standards for student performance. Several research articles provide evidence that the NCTM teaching practices are probably not the best practices for achieving the student performance standards implied in the standards.

Beginning Reading Instruction

Effective School Practices, Winter 1994, Volume 13, No. 1

ABSTRACT: Research still shows that systematic phonics instruction with a code-based reader are important components of effective initial reading instruction and are not incompatible with most whole language activities. Read Keith Stanovich's analysis of reading instruction issues in *Romance and reality* and Patrick Groff's review of *Reading Recovery* research. Read how a highly successful school teaches reading to Spanish-speaking children. Edward Fry also provides a set of tools for solving common reading problems.

Discriminatory Educational Practices

Effective School Practices, Spring, 1993, Volume 12, No. 2

ABSTRACT: Research has documented discriminatory effects for two popular school reforms: whole language and "developmentally appropriate practice" as it has been defined by the National Association for the Education of Young Children. This edition summarizes the research evaluating effects of these reforms on the upward mobility and learning of economically disadvantaged children, minority children, and special education children. These diverse learners in programs incorporating the popular "child-centered" pedagogies are less likely to acquire the tools they will need for economic success and have lower self-esteem than children in traditional programs.

Heterogeneous Grouping and Curriculum Design

Effective School Practices, Winter, 1993, Volume 12, No. 1

ABSTRACT: Heterogeneous grouping is a superficial and ineffective solution to the problem of discrimination in education. Equal access to education involves much more than having equal access to a seat in the classroom. This edition presents research summaries and perspectives surrounding grouping decisions. Research finds subject-specific homogeneous grouping most effective in subjects that are skills-based, such as reading and mathematics. The reprinted education survey by the *Economist* compares educational systems around the world and finds America's attempt to provide equal education for all a failed experiment. The *Economist* praises Germany's ability to turn out the most highly skilled workers in the world. Both *Forbes* and the *Economist* criticize many of the currently popular American reforms, such as whole language and heterogeneous grouping, for the mediocrity they seem to encourage.

Listing of Effective Programs

Effective School Practices, monograph, 1993, also *ADI News*, Volume 11, No. 5.

ABSTRACT: This issue features a complete annotated listing of Direct Instruction, programs authored by Zig Engelmann and his colleagues. Also included are procedures for obtaining funding, addresses of funding sources, and a model proposal.

Wholistic Approaches

ADI News, Summer, 1992, Volume 11, No. 4

ABSTRACT: Effective instruction (e.g., Direct Instruction,) provides wholistic integration of skills that have been specifically taught. Wholistic programs that do not teach important component skills are inferior. A study is reported that shows that students learning from Direct Instruction programs in mathematics achieve higher scores than students learning from the new teaching standards promoted by National Council of Teachers of Mathematics. A synthesis of studies in reading shows that using Direct Instruction reading programs result in higher reading scores than whole language programs that provide no instruction in component skills, such as decoding.

ADI News, Volume 11, No. 2

ABSTRACT: This edition includes a study comparing the effects of four procedures for parents to use in teaching reading to their children. Parents using *Teach Your Child to Read in 100 Easy Lessons* (see ADI materials list for ordering information) obtained the highest reading improvement scores with their children. This edition also reports a comparison of the achievement scores of Wesley Elementary, a Direct Instruction school, with ten other schools, the results of a comparison of meaning-based versus code-based programs in California, and other reports of the effectiveness of Direct Instruction programs with special populations.

Historical Issue III

ADI News, Volume 8, No. 4

ABSTRACT: The historical series reprint highlight articles and contributions from earlier editions. The featured articles in this edition are divided into the following sections: (1) Implementation strategies and issues, (2) Direct Instruction research studies, and (3) Research related to DI's goals. Russell Gersten's response to a study that is widely discussed among promoters of the current child-directed instruction reform is reprinted in this edition. That study by Schweinhart, Weikart, and Lerner is highly critical of DI preschool programs. Gersten criticizes that study primarily for using self-report data to evaluate delinquency and for interpreting nonsignificant differences as if they were significant.

Historical Issue I

ADI News, Volume 7, No. 4.

ABSTRACT: The featured articles in this issue are divided into the following sections: (1) Introduction, (2) Research studies, and (3) Management strategies. These include a classic essay by Zig Engelmann "On Observing Learning," a high school follow-up study on Follow Through children in Uvalde TX, a meta-analysis of the effects of DI in special education by W.A.T. White, and other studies reporting the effects of DI in teaching English as a Second Language, poverty level preschoolers, secondary students, and moderately retarded children. Also included are classroom management tips from Randy Sprick and Geoff Colvin, along with a school-wide discipline plan.



Videotapes on the Direct Instruction Model

Aren't You Special—25 minutes. Motivational talk by Linda Gibson, Principal at a school in Columbus, Ohio. Successful with DI, in spite of minimal support. Keynote from 1997 National DI Conference. Price: \$15.00

Effective Teaching: It's in the Nature of the Task—25 minutes. Bob Stevens, expert in cooperative learning from Penn State University, describes how the type of task to be taught impacts the instructional delivery method. Keynote from 1997 National DI Conference. Price: \$15.00

One More Time—20 minutes. Closing from 1997 National DI Conference. One of Engelmann's best motivational talks. Good for those already using DI, this is sure to make them know what they are doing is the right choice, for teachers, students and our future. Price: \$15.00

Direct Instruction in Action—45 minutes. This tape is a series of student, parent, teacher and administrator testimonials about the use of DI, and many examples of Direct Instruction being used across the country with a wide range of learners. A good tape for anyone who needs to know what DI looks like and why it works. Price: \$45.00

Keynotes from 22nd National DI Conference—2 hours. Ed Schaefer speaks on "DI—What it is and Why It Works," an excellent introductory talk on the efficiency of DI and the sensibility of research based programs. Doug Carnine's talk "Get it Straight, Do it Right, and Keep it Straight" is a call for people to do what they already know works, and not to abandon sensible approaches in favor of "innovations" that are recycled fads. Siegfried Engelmann delivers the closing "Words vs. Deeds" in his usual inspirational manner, with a plea to teachers not to get worn down by the weight of a system that at times does not reward excellence as it should. Price: \$25.00

Keynotes from the 1995 Conference—2 hours. Titles and speakers include: Anita Archer, Professor Emeritus, San Diego State University, speaking on "The Time Is Now" (An overview of key features of DI); Rob Horner, Professor, University of Oregon, speaking on "Effective Instruction for All Learners;" Zig Engelmann, Professor, University of Oregon, speaking on "Truth or Consequences." Price: \$25.00

Keynote Presentations from the 1994 20th Anniversary Conference—2 hours. Titles and speakers include: Jean Osborn, Associate Director for the Center for the Study of Reading, University of Illinois, speaking on "Direct Instruction: Past, Present & Future;" Sara Tarver, professor, University of Wisconsin-Madison, speaking on "I have a Dream That Someday We Will Teach All Children;" Zig Engelmann, Professor, University of Oregon, speaking on "So Who Needs Standards?" Price: \$25.00

An Evening of Tribute to Siegfried Engelmann—2.5 hours. On July 26, 1995, 400 of Zig Engelmann's friends, admirers, colleagues, and protégés assembled to pay tribute to the "Father of Direct Instruction." The Tribute tape features Carl Bereiter, Wes Becker, Barbara Bateman, Cookie Bruner, Doug Carnine, and Jean Osborn—the pioneers of Direct Instruction—and many other program authors, paying tribute to Zig. Price: \$25.00

Challenge of the 90's: Higher-Order thinking—45 minutes, 1990. Overview and rationale for Direct Instruction strategies. Includes home-video footage and Follow Through. Price: \$10.00 (includes copying costs only).

Follow Through: A Bridge to the Future—22 minutes, video, 1992. Direct Instruction Dissemination Center, Wesley Elementary School in Houston, Texas, demonstrates approach. Principal, Thaddeus Lott, and teachers are interviewed and classroom footage is shown. Created by Houston Independent School District in collaborative partnership with Project Follow Through. Price: \$10.00 (includes copying costs only).

Where It All Started—45 minutes. Zig teaching kindergarten children for the Engelmann-Bereiter pre-school in the 60's. These minority children demonstrate mathematical understanding far beyond normal developmental expectations. This acceleration came through expert teaching from the man who is now regarded as the "Father of Direct Instruction," Zig Engelmann. Price: \$10.00 (includes copying costs only).

Direct Instruction—black and white, 1 hour, 1978. Overview and rationale for Direct Instruction compiled by Haddox for University of Oregon College of Education from footage of Project Follow Through and Eugene Classrooms. Price: \$10.00 (includes copying costs only).

Corrective Reading: Decoding B1, B2, C—4 hours, 38 minutes + practice time. Pilot video training tape that includes an overview of the Corrective Series, placement procedures, training and practice on each part of a decoding lesson, information on classroom management / reinforcement and demonstrations of lessons (off-camera responses). Price: \$25.00 per tape (includes copying costs only).

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Register with ADI as a Referenced Consultant—

There is a great deal of interest in Direct Instruction programs today, and along with that interest there is a high demand for *qualified* consultants. We are quite certain that there are many great DI trainers out there that we do not know about. To help gather and disseminate this information, ADI is establishing a database of Direct Instruction program consultants (trainers). This data will be distributed via an ADI-published directory, the ADI web site and used for any telephone referrals calls that come to ADI.

In order to have some quality control, we have devised the following requirements to be listed as a Referenced DI Consultant:

1. You must have a current membership with ADI.
2. You must provide us with three letters of reference or recommendation. These letters can be from school personnel, SRA personnel, etc.
3. You must complete the survey below and on the back of this page.
4. Send ADI a \$25.00 fee to cover the costs of building and maintaining the database.

If you have any questions about this program, please contact Bob Dixon or Bryan Wickman at 1-800-995-2464.

ADI Direct Instruction Consultant/Coach Information Survey

Name _____ Street _____
City _____ State/Province _____
Zip/Postal Code _____ Home Phone _____
Work Phone _____ E-mail Address _____
Pager _____ FAX _____

Please check the appropriate boxes.

Reading Mastery I-III (And Fast Cycle)

- ☐ Information Presentation (e.g., one-hour presentation to adoption committee)
- ☐ Coaching (do demonstration lessons in classrooms, watch teachers & give feedback)
- ☐ Training (stand-up training groups of people to use programs)

Reading Mastery IV-VI

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Corrective Reading - Decoding A-C

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Corrective Reading - Comprehension A-C

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Reasoning & Writing A-C

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Reasoning & Writing D-F

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Horizons A & B

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Connecting Math Concepts A-C

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Connecting Math Concepts D-F (And Bridge)

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Spelling Mastery A-F & Corrective Spelling through Morphographs

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Expressive Writing I & II

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

DISTAR Language I & II

- ☐ Information Presentation
- ☐ Coaching
- ☐ Training

Please list the titles of any other Direct Instruction-related workshops or presentations you do, and attach brief descriptions of each. (E.g., seatwork, a keynote-type of talk, supervision, training coaches, etc.)

Is there anyone you WILL NOT work for? (This information will remain confidential.) Any geographic area in which you WILL NOT work?

Please tell us as much as possible about your availability—or anticipated availability—for work as a Direct Instruction Consultant/Coach/Trainer/"Information presenter." For example, do you teach full time? Can you work five days a month? Ten?

Do you have experience implementing one or more levels of one or more Direct Instruction programs throughout a school? Please tell us about that, if applicable.

Our New Home is almost complete...
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ADI is pleased to announce that our web page is almost complete and ready for you to check over. Available features include:

- ADI Store
- Conference Listings
- Members Forum
- Make Zig's Day
- and other areas telling about ADI and Direct Instruction.

To log into the Members area, at the prompt enter *guest*. The temporary password is *rt45*.

Members will receive an individual name and password in March.

We are very excited about this development and would love your feedback to make this page a valuable tool for you!

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ADI has **TWO Email Lists**: one for discussion and announcements (effschprac), another for announcements only (adinews).

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

By subscribing to the EFFSCHPRAC list, you will be able participate in discussions of topics of interest to ADI members. You will automatically receive in your email box all messages that are sent to the list. You can also send your news and views out to the list subscribers, like this:

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Message: *Whatever you want to say.*

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On this list, you will receive announcements only, such as news of upcoming TV specials on DI, announcements from employers seeking persons with DI teaching skills and from those with DI teaching skills seeking jobs, and other news flashes.

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