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Education for Language Minority Students: Recent Events

How is an education system that teaches its curriculum in the English language able to manage with students who have little or no experience with the language of instruction? If numbers are low, or if there is little assessment of later educational outcomes, then the issue may not arouse a great deal of attention. However, the number of immigrants without English is very high and increasing in many developed countries. For example, the number of students who have limited English proficiency (LEP) has doubled in the last 10 years, whilst the general school population has grown by only 12% (Kindler, 2002). Within 50 years in the United States, the proportion of children beginning school whose language is not English could be as high as 40% (Lindhlom-Leary, 2000).

The recent emphasis on accountability for educational outcomes (U.S. Department of Education, 2002) at national and state levels has focused attention on how best to assist LEP students to manage the adjustment to a new culture, language, and education system. It has long been recognized that most LEP students were born into economically disadvantaged families, and their arrival in a new country often creates even more profound disadvantage. Many newly arrived parents have little or no English and may have experienced little or no formal education. Thus, many LEP students will come to school with little of the background knowledge that is prerequisite for academic progress, nor with a family culture of learning.

LEP students represent an educationally at-risk group—most perform below grade level in educational attainment and are in educational settings with fewer than average resources. There has been strong concern about the pre-dictable trajectory of such disadvantaged students and an awareness of the need to interrupt the pattern for the sake of the new arrivals—and also because it creates a cycle of further disadvantage that entrenches a subclass in society.

Endeavors to maximise opportunities for the LEP children have been complicated by a contentious, politically enmeshed issue—the language in which most or all early education should take place (Porter, 2000).

History

Schools employing the native language of new arrivals were established by enterprising European immigrant groups as far back as the 1800s, and of course, many children of that period received their education at home in their parents' language rather than in the school system.

Nationalistic fervor following the First World War led to the belief that rapid assimilation to the culture and language was the ideal outcome for new arrivals. In education, the non-English speaking student was largely left to his own devices—to dive, survive, or thrive—a model that became known as submersion. No particular assistance was provided to the students, who were placed immediately in regular classes with their English-speaking peers.

This approach was later tempered when regular instruction in English as a Second Language (ESL) was introduced. ESL is a model in which children attend regular classes in English, but are provided with an additional period of English instruction either daily or several times per week (Rossell, 1998).

The rise of multiculturalism after the 1960s introduced a different atmosphere—one in which diversity was to be cultivated rather than submerged. From this perspective, the dominant culture is enhanced by encouraging different languages, customs, and lifestyles to coexist, thrive, and merge. Indeed, the students' native culture (including language) should be celebrated and respected as the equal of that of the dominant culture (Mora, 2002).

Partly deriving from this broad sociocultural belief system is the expectation that schools should provide early teaching in the child's first language in a discrete, largely single-language class. The instructional rationale is that at least some degree of first language competence is necessary for students' cognitive development (Rossell, 2003), and that literacy skills developed in this first language will readily transfer to learning to read and write in English (Mora, 2002; Rossell, 2003).

This bilingual approach is intuitively attractive, as it provides a sense of the familiar in a potentially threatening environment, and it also begins with instruction that makes use of the child's strengths. Thus, it is argued, students should make progress consonant with that of their peers because they do not have to master both English and the school curriculum simultaneously. It became known as a bilingual education system, because education is provided by the school in more than one language. Students would learn to read, write, and experience the school curriculum (math, science, etc.) in their native language, with an increasing amount of English instruction as their progress dictated (Guzman, 2002). The expectation was that it might entail a couple of years or even as many as 7 before their English proficiency would enable full inclusion in all regular classes, but certainly within their elementary school career. Another advantage was the capacity of

parents to be involved in their child's education at the beginning stages, when they might otherwise have been excluded by the language barrier.

An extension of bilingualism is known as two-way immersion (Christian, Howard, & Loeb, 2000) and involves all kindergarten students participating in learning a second language from the beginning of the school year. In this model, all instruction occurs in two languages (for example, English and Spanish), and all students remain in the same classroom. The assertion is that each group benefits to a greater degree than they would were they segregated. The language minority students rapidly develop English through authentic discourse and interlanguage transfer of skills, whilst the language majority students reap the bonus of proficiency in a second language. Despite the apparent loss of instructional time available for the language majority students to attend to curriculum issues, it is argued that the process occurs without jeopardising their academic progress (Christian et al., 2000).

A later approach, structured immersion, was based on the premise that progress may be more rapid if the language minority student receives his or her education in English alongside the locally born peers and also participates in English language instruction in a special class for a year. The underlying beliefs are that learning a new language is easier when a child is young and that immersion in the language promotes optimal development (Morlan, 2000). Philosophically, immersion is attractive because of its presumed advantages in producing fluency in the English language, an essential step on the path to an equal education, and thereby to full participation in society (Porter, 2000). This scenario of inclusion in the same class as one's peers is potentially less stigmatising, and also provides opportunities for English language learning to be accelerated through increased peer contact and the sheer volume of English experi-

enced (Glenn, 2003). English instruction is provided intensively for a year, and then children are assigned to a grade with students of similar levels of English development. A specialist teacher provides instruction for every subject in English, with allowance for some excursions into the native language as the need arises, such as for difficult concepts. This is unlikely to exceed about 10%–30% of the instructional time, and the language sophisti-

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cation employed by the teacher is expected to match the capabilities of the particular group of students (Baker, 1998).

Which general approach is most effective may appear to be an empirical question; however, much more heat than light has been shed on this question. The goal of the protagonists in this debate is surely identical—to enable students to make optimal use of educational and social opportunities so as to enjoy productive and satisfying lives in their new land. However, there are other ideals competing with efficacy. For example, the United Nations asserts that children have a right to be educated in the language of their home should parents seek it, a position also adopted by the International Reading Association (2001). When a Public Agenda poll (Farkas, Duffett, & Johnson, 2003) asked immigrants for their views, 63% responded that all classes should be conducted in Eng-

lish; whereas 32% considered that at least some subjects would be better taught in native languages. Most parents, it appears, consider immersion a better option for their children's participation in society.

Some interested parties have argued that multiculturalism is a vitally important social goal that is best promoted by the bilingual approach of teaching in and about other languages and cultures (Mora, 2002). Others have suggested that one reason why bilingualism became so entrenched was as an element in the broader social goal of reducing prejudice in society (Aboud & Levy, 1999). Thus, efficacy is not the only criterion employed in discussion about the competing approaches.

The bilingual approach has been the dominant approach for many years but has received increasing criticism over the past 10 years. For example, the time spent in maintaining development of the native language has an opportunity cost. It is time that could have been spent in practising English, and critics argue that the costs outweigh the benefits (Gersten & Baker, 2000; Guzman, 2002). Numerous studies and reviews have been performed, yet methodological quality has frequently been questioned (Rennie & Marcos, 2003; Slavin, 2004), making consensus difficult to obtain. This has led to an entrenching of positions as protagonists laud studies supporting their perspective and strongly criticize others. Their opponents condemn those lauded studies and defend the criticised studies (Rossell, 2003). In particular, the choice of studies deemed acceptable to various meta-analysts has been an area of disagreement. Slavin's (2004) recent "best evidence synthesis" (Slavin, 1986) regarding reading instruction is an attempt to overcome some of the apparent variability in determining which studies are of sufficiently high quality to be included in a meta-analysis.

Ad hominem attacks on opponents are not unknown. For example, Mora (2002) asserts that arguing for structured immersion implies a belief that other languages and cultures are inferior to English-based cultures. She further claims, "In order to curtail rights of access to education for language minority students and their parents, the anti-bilingual education forces have constructed a lie" (para 8).

Further clouding the issue are problems of definition. There can be considerable difficulty in determining precisely what instructional components are employed in programs that carry the label bilingual. There is a great deal of variation across programs, a scenario similar to that which plagued the whole language evaluation question for so long. Some consider almost all intervention programs bilingual if some native language is used at some part of the day. Others consider bilingual programs to include a narrow band of specified features (de Cos, 1999). It is conceivable that different reviews may include the same study but under any of the categories: structured immersion, bilingual, or ESL (Clark, 1999; Rossell, 2003).

Recent Public Concern

However, some statistics have troubled parents and policy makers. Under bilingualism, non-English proficient students have higher grade-repetition rates and four times the dropout rate of their English-fluent peers (Marnie, 2001). They present with lower school achievement, whether assessed by their teachers or on standardized tests of reading and math (Moss & Puma, 1995). Teachers often express concern about poor attitude and lack of motivation among many LEP students, although it is now being recognised that these secondary obstacles to progress are more often a result of difficulties with language acquisition, rather than a cause of their learning problems (Ganschow, Sparks, & Javorsky, 1998).

The length of time students spend outside the mainstream has also elicited criticism. Those children who begin bilingual intervention early (ages 4–7 years) could be segregated for between 3 and 10 years, while later starters (ages 8–11 years) average 2 to 7 years. When students arrive later into programs (ages 12–15 years), they may never leave—remaining segregated for 6 to 8 years (Kellis, Brezovsky, & Silvernail, 2001). The current state of education for LEP students is creating great concern, yet clear unambiguous solutions are not easy to find.

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An influential report commissioned by the National Research Council (August & Hakuta, 1997) noted that there was insufficient evidence that teaching programs in one's native language was more effective than English immersion or English as a Second Language programs. The report further noted a paucity of well designed studies of the dominant model's effectiveness, calling for more fine-grained research that would allow for decisions to be based upon measurable student outcomes. Rossell and Baker (1996), in reviewing 300 studies, reported that only 72 were of adequate design. From this data, they concluded that there was little evidence to recommend bilingual education over other approaches or, indeed, over submersion. Several authors have challenged the criteria employed in this meta-analysis and

criticised aspects of the selection (de Cos, 1999). To complicate matters further, a relatively low proportion of students in bilingual classes participate in statewide testing (Rossell, 2003), as such tests are printed in English. Thus, the system-wide attainment levels of students in bilingual education programs have been less well scrutinised than is desirable.

A further exploratory meta-analysis by Baker and Gersten (1997) was prompted by a desire to tease out instructionally important variables. But, as was noted in the National Research Council report, the research to that time had been insufficiently well controlled to enable any firm conclusions about such variables. Indeed, Gersten and Baker (2000) describe the pace of instructional research focused upon LEP students as "glacial" (p. 454).

Mandated Change

The criticisms developed enough momentum among Californians that, in 1998's Proposition 227, they replaced bilingual education in the state's public schools with English-immersion programs that allow education in a transitional sheltered immersion program only for the 1st year. After that year, they are expected to manage in an all-English language classroom. Although parents have the right to request bilingual education, fewer than half the former number of students are currently in bilingual programs (Rossell, 2002). Several other states have taken, or are considering, similar action. Of course, not all states make special provision for LEP students—there are 16 that do not, and there is considerable variation in the models of assistance that other states provide (Kellis et al., 2001).

The long term impact in the states adopting immersion programs is not yet clear. Rossell's (2002) analysis notes improved outcomes in California, partly because, according to her

data, bilingual programs had produced generally negative effects on achievement. Some other reported improvements include a statewide 20% elevation of standardized test scores for minority language speakers on the California state test (Prop. 227's promise, 2000). In one school district employing structured immersion, LEP students' scores increased by 47% in a school year, whilst another largely bilingual district's scores increased by only 4% (Baker, 2000). *The New York Times* (Soifer, 2001) reported that, since the introduction of immersion, there had been an increase of 11 percentile points in reading and 19 percentile points in math on Stanford 9 test scores for limited English proficient students in the Oceanside Unified School District.

Although gains have been noted across all levels, the most significant improvements have been with younger children (Amselle & Allison, 2000). This finding is consistent with the generally accepted view that learning a new language is easier when a child is young (Johnson & Newport, 1989). In a different interpretation, these young LEP students are not strictly learning a second language, rather they are simply continuing the process of learning a language, though in a new language, English (Bialystok & Hakuta, 1994).

Of course, many students arriving in a new country have difficulties beyond that of a lack of English. A high proportion will have lived in poverty with the attendant problems that entails. Their parents may be uneducated, and the children's early language development even in their native language may have been severely limited. Thus, LEP students may have additional vocabulary problems (McLaughlin et al., 2000)—sharing one similar obstruction to progress with locally raised disadvantaged students (Hart & Risley, 2003). An early vocabulary deficit has been shown to be remarkably predictive of language growth and reading comprehension to at least

third grade (Hart & Risley, 2003). Almost certainly this additional hurdle contributes to the continued concerns for many LEP students, even those in structured immersion programs.

Soifer (2001) points out that the elevated achievements of some structured immersion programs derive from important structural and curriculum components, rather than simply because of the change of philosophy. In successful programs, care is taken to ensure that appropriate levels of resources are available for instructional materials. The successful schools adopted a code emphasis reading pro-

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gram, and a carefully structured English language development program, and ensured that instructional time was sacrosanct, regardless of competing day-to-day priorities. Thus, influences on progress that are now well accepted for general education students (such as academic learning time) are intentionally controlled to promote similarly improved progress for LEP students.

Phoenix Advantage Charter School in Arizona has also reported very strong outcomes for its high proportion (30%) of LEP students. It is a school in a disadvantaged area (80% free meals), yet it has managed to dramatically alter the trajectory of its students over a relatively short period of time. The Measure of Academic Progress (MAP) results compare each student's Stanford 9 scores from one year with the same students' scores in the following year to determine how many students

make 1 year's progress from one year to the next. It offers a more transparent view of individual student progress than is obtained by only summing results and examining averages (Barker & Torgesen, 1995).

> Over one year, Stanford 9 test scores for first-graders increased from the 24th percentile to the 49th percentile in reading, from the 38th to the 48th percentile in math, and from the 22nd to the 46th percentile in language. School officials announced last year that the percentage of student scores in the top 25 percent nationally had increased from 4 percent to 18 percent in just one year. (Soifer, 2001, para 9)

More recent data (2003) from the Arizona Department of Education reveals that 74% of Advantage students in math and 72% of students in reading made a year's growth between 2002 and 2003, a result above the state average. These outcomes are surprising given the high support needs of the students at intake (GreatSchools.net, 2003).

This school pays careful attention to instructional details for LEP students. It includes Direct Instruction programs in reading, writing, and math among its curriculum. Rather than categorising students according to age, instructional groupings are determined by initial assessment of attainment in each of these areas. Teaching occurs intensively in small homogeneous groups. It is highly structured, with extended opportunities for practice, continuous assessment, and regular feedback of progress. Acceleration occurs regularly, as movement to and from groups is based on day-to-day performance, rather than on assumptions about a student's ability. Any students whose progress begins to decline are thus readily detected and able to obtain additional targeted instruction.

As noted above, there is considerable variation across bilingual programs, and similar variation is also likely across structured immersion programs. It is important, then, to define what instructional qualities are present in programs when they are evaluated.

In 2002, the U.S. Department of Education's research office formed a 14 member National Literacy Panel on Language Minority Children and Youth (U.S. Department of Education, 2002). The National Reading Panel (2000) did not include literacy development among language minority students in its report; in fact, much of the experimental research on literacy specifically excludes such students (Stuart, 1999). Apart from the focus on LEP students, the National Literacy Panel is established along similar lines to the National Reading Panel, although it accepts a broader range of studies, including quantitative experimental studies, quantitative nonexperimental studies, and qualitative studies. Perhaps the additional inclusiveness was a reaction to the dearth of methodologically sound research noted by other analysts (Baker & Gersten, 1997; Rossell & Baker, 1996), or it may be in anticipation that a larger net will enable the raising of interesting research questions, even if at the cost of providing clear answers. Gersten and Baker (2000) also responded to the paucity of sound studies with a qualitative analysis technique—multivocal synthesis. It is a method for discerning patterns and trends from disparate data sources.

The National Literacy Panel's stated intention is to produce the definitive analysis of the research literature to date that will eventually lead to instructional guidelines to aid optimal development of literacy in LEP students. The report will examine such issues as the relationship between oral proficiency and literacy, the transfer of literacy skills from a student's first language to the second language, how literacy develops among LEP students,

in what contexts is it best encouraged, how is professional development for promoting literacy best provided, and how should literacy be assessed among LEP students. The panel is expected to release its report in January 2004.

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opment. Some teachers consider language development to be a natural process that occurs when students have adequate communication opportunities in everyday activities, such as listening to story reading and engaging in conversation with peers and teachers. Thus, a child-centered teacher endeavors to create a pleasant, supportive environment to motivate students to engage in a discovery process of acquiring language. This perspective is popular, and relatively few teachers deem it necessary or desirable to provide explicit instruction (Snow, Burns, & Griffin, 1998). A different perspective holds that too many students do not induce language conventions merely by exposure to them, and that careful attention to the language of the classroom can make a large difference in the trajectory of these students. The two approaches are not mutually exclusive if an empirical rather than an ideological perspective is adopted. Thus, there is no valid reason why a structured approach cannot coexist alongside the provision of ample opportunities for the activities favored by the child-centered protagonists.

Gersten, Baker, Unok Marks, and Smith (1999) and Gersten and Baker (2000) provide quite specific recommendations that include the necessity for formal explicit programming that emphasises the structure of the English language. Indeed, they recommend that content learning and language learning should be separated into discrete educational objectives if both are to be achieved.

Explicit Systematic Programs and LEP Students

In a British study (Stuart, 1999), 224 school beginners, 96 of whom were LEP students, were assigned to one of two intervention groups for 12 weeks. One group participated in the *Jolly Phonics* programme, a structured code-emphasis approach. The other group received a whole language introduction to literacy through Holdaway's (1979) *Big Books*. The *Jolly Phonics* programme produced stronger effects on the students' phonemic awareness and phonics knowledge and their usage of these skills in reading and writing. In a 1-year follow up, the students in the *Jolly Phonics* group were still significantly more advanced in all the phonological and literacy measures.

Another explicit, structured program is *Language for Learning* (Engelmann & Osborn, 1999), an update of the *Distar Language I* program (Engelmann & Osborn, 1976). It is designed to teach oral language skills to young school children whose language underdevelopment is threatening to impede their literacy and general academic progress. It emphasizes the language usage conventions—the information and concepts that will assist those at risk, including LEP students, to manage the demands of the classroom. The emphases include syntactic, semantic, and pragmatic skills—general information, descriptions of objects, background knowledge, words used in

instructional settings, problem-solving, concepts, classification, and problem-solving strategies. The curriculum focus is sometimes described as the language of instruction—a level of communication skill often assumed, in the everyday discourse of infant grade teachers, to have been mastered by all their students.

Not only are the relevant curriculum skills carefully delineated, but the nothing-left-to-chance attitude of the designers extends to the mode of instruction. It is an explicit approach that employs scripted lessons, choral responses on cue, immediate error correction, massed and spaced practice, cumulative review, and the principles of mastery learning (Robinson, 2002).

The earlier (*Distar Language I*) program has been shown to be effective for at-risk students of various types, including those from disadvantaged backgrounds, and those with physical, sensory, or intellectual disabilities (Cole & Dale, 1986; Cole, Dale, & Mills, 1991; Cole, Dale, Mills, & Jenkins, 1993; Darch, Gersten, & Taylor, 1987; Gersten & Maggs, 1982; Gregory, Richards, & Hadley, 1982; Lloyd, Epstein, & Cullinan, 1981; Maggs & Morath, 1976; Mitchell, Evans, & Bernard, 1978).

The *Distar* interventions have occasionally been evaluated with LEP students. For example, Kenny (1980) employed the *Distar Language I* program (Engelmann & Osborn, 1976) with a group of infant grade LEP students. She compared it with the *Tate Oral English* course (Tate, 1971), a program designed to teach the structure of English as opposed to the language of the classroom. It operates always at the level of the whole sentence, and differs from the *Distar* approach—and is broadly described as holistic and discovery oriented. Results favored the *Distar* program on measures of morphology, syntax, concept development, and expressive language. The techniques apparent in *Distar Language 1*

and *Language for Learning*, in particular the highly structured, fast paced and intensive administration are thought to contribute significantly to its effectiveness in improving the language skills of children (Sparzo, Bruning, Vargas, & Gilman, 1998; Wanzek, Dickson, Bursuck, & White, 2000).

One advantage of the scripted Direct Instruction programs is their use of the same standard instructions to introduce similar tasks. This consistency reduces the language load for students who are better able to concentrate on the concepts, reducing the risk that they may fail to comprehend the instructions for the task.

Gersten, Brockway, and Henares (1983), after some early success with the response of young LEP students to *Distar Language* and *Distar Reading* (Engelmann & Bruner, 1974), developed the DILE (Direct Instruction for those with Limited English) for LEP students throughout the elementary years—but particularly to assist those students first arriving at school in the intermediate years. It involved teaching reading, oral language, and mathematics in small, ungraded groups. Sessions were 30 min with a great deal of oral student–teacher interaction. The ungraded feature enabled intermediate grade students to receive instruction appropriate to their actual attainment levels. Gersten et al. make the point that although in structured immersion instruction occurs in English, it is important that it be at a language level understandable by the student. One advantage of the scripted Direct Instruction programs is

their use of the same standard instructions to introduce similar tasks. This consistency reduces the language load for students who are better able to concentrate on the concepts, reducing the risk that they may fail to comprehend the instructions for the task.

Assessment occurred across reading, language, math, and spelling at 6-week intervals to enable monitoring for the purposes of acceleration or additional support. Results were outstanding, with both the LEP students and their English-speaking peers performing above national median levels after 1 to 2 years in the program. After leaving the program, the students' 1- and 2-year follow-up data indicated that these high levels of performance were maintained.

Further studies by Gersten and colleagues (Becker & Gersten, 1982; Gersten, 1985; Gersten & Woodward, 1985, 1995) reported increased high school graduation rates and reduced grade retention when the Direct Instruction curricula were employed. In fact, Gersten (1996) noted that even monolingual teachers could be effective in teaching literacy when using these curricula.

In recent times two studies have evaluated the *Language for Learning* program (Benner et al., 2002; Waldron-Soler et al., 2002), although not with LEP students. The first (Benner et al., 2002) employed the program over a school year to a general sample of 21 kindergarten students. They noted educationally significant improvements in receptive language compared to the results for students maintained in the regular school language program.

The Waldron-Soler et al. (2002) evaluation was a brief study (30 lessons over a 15-week period) with 36 preschool participants, of whom 8 had developmental delays. Though the study design allows only a cautious interpretation, the results offered support for the program's value for both disabled

and nondisabled students across receptive and expressive language domains, and in their social interactions.

An interesting addition to the *Language for Learning* program is an integrated complement entitled *Español to English* (SRA/McGraw-Hill, 2003). It is designed to be used in conjunction with *Language for Learning* for Spanish-speaking students in English language classrooms. It provides Spanish scaffolds strategically, for example, to assist with the introduction of new information. Spanish is gradually faded as students gain competence in English.

Instructional Design and Effective Teaching Principles

In considering curriculum issues for LEP students, it is helpful to appreciate that the principles underlying all Direct Instruction programs have been successfully employed across a range of curriculum areas and learner types (Adams & Engelmann, 1996). Studies demonstrating effective student outcomes include populations of disadvantaged students (Gregory, 1983), special education students (Scruggs & Mastropieri, 1993; White, 1988), and students with learning disabilities (Hendrickson & Frank, 1993; Kavale, 1990) and traumatic brain injury (Glang, Singer, Cooley, & Tish, 1992). In fact, Gersten (1985), in his review of studies involving students with a range of disabilities, concluded that Direct Instruction usually produced higher academic gains than traditional approaches, a finding supported by the meta-analysis of Adams and Engelmann. In education, it has become apparent that the intuitive proposition that differential diagnosis of disability should lead to differential treatment regimens has not been empirically supported. O'Neill and Dunlap (1984) argued that "…the principles underlying effective instruction may be more

influential in the process of learning than the special characteristics of any particular student population" (p. 6). Further support for the view that well designed instruction transcends learner characteristics is the finding that Direct Instruction has also been found to accelerate the progress of average and gifted students (Noon & Maggs, 1980).

The breadth of effect extends to many curriculum areas. Direct Instruction no longer has a sole emphasis on basic skills such as reading, spelling, math, language, and writing—but has broad-

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ened its area of application to include higher order skills, for example, literary analysis, logic, chemistry, critical reading, geometry, and social studies (Carnine, 1991; Casazza, 1993; Darch, 1993; Grossen & Carnine, 1990; Kinder & Carnine, 1991). Use has been made of technology through computer-assisted instruction, low-cost networking, and videodisc courseware (Kinder & Carnine, 1991), and researchers have begun to test the model in non-English speaking countries, for example, third world countries (Grossen & Kelly, 1992) and Japan (Nakano, Kageyama, & Kinoshita, 1993).

There are a number of important characteristics of Direct Instruction programs (Becker, 1977). It is assumed that all children can learn and be taught, thus failure to learn is viewed as failure to teach effectively (Engelmann, 1980). Children who are

behind must be taught to learn faster—this implies a focus on features of teaching designed to improve efficiency. These features derive from the design of instruction and from process variables such as how the curriculum is implemented. Curriculum is designed with the goal of "faultless instruction" (Engelmann, 1980), that is, sequences or routines for which only one interpretation is logical. The designer's brief is to avoid ambiguity in instruction—the focus is on logical-analysis principles. These principles allow the organisation of concepts according to their structure and the communication of them to the learner through the presentation of positive and negative examples.

Engelmann (1980) highlighted four design principles: First, where possible, teach a general case, that is, those skills which when mastered can be applied across a range of problems for which specific solutions have not been taught (e.g., decoding regular words). These generalizations may be taught inductively by examples only, or deductively, by providing a rule and a range of examples to define the rule's boundaries.

Second, teach the essentials. The essentials are determined by an analysis of the skills necessary to achieve the desired objective. There is an underlying assertion that, for reading, it is possible to achieve skilled reading by analysis and teaching of subskills in a cumulative framework. Advocates of a "whole language" perspective would disagree with the possibility, or desirability, of teaching in this manner.

Third, keep errors to a minimum. Direct Instruction designers consider errors counterproductive and time wasting. For remedial learners a high success rate is useful in building and maintaining motivation lost through a history of failure. This low error rate is achieved by the use of the instructional design principles explained in *Theory of Instruction* (Engelmann &

Carnine, 1982), and by ensuring that students have the preskills needed to commence any program (via a placement test).

Fourth, provide adequate practice. Direct Instruction programs include the requirement for mastery learning (usually above 90% mastery). Students continue to focus on a given task until that criterion is reached. The objective of this strategy is the achievement of retention without the requirement that all students complete the identical regimen. The practice schedule commences with massed practice, shifting to a spaced schedule. The amount of practice decreases as the relevant skill is incorporated into more complex skills. Advocates of Direct Instruction argue that this feature of instruction is particularly important for low achieving students and is too often paid scant regard (Engelmann, 1980). Although this emphasis on practice may be unfashionable, there is ample supporting research, and a number of effective schools are increasingly endorsing its importance (Rist, 1992). "The strategies that have fallen out of style, such as memorizing, reciting, and drilling, are what we need to do. They're simple—but fundamental— things that make complex thinking possible" (p. 19).

These principles of instructional design set Direct Instruction apart from traditional and modern behavioral approaches to teaching. However, the model does share a number of features with other behavioral approaches (e.g., reinforcement, stimulus control, prompting, shaping, extinction, fading) and with the effective teaching movement (mastery learning, teacher presentation skills, academic engaged time, and correction procedures).

These latter features have been researched thoroughly over the past 30 years and have generally been accepted as comprising "direct instruction" (note lower case letters) (Gersten, Woodward, & Darch, 1986).

Rosenshine (1980) used the expression direct instruction to describe a set of instructional variables relating teacher behavior and classroom organization to high levels of academic performance for primary school students. High levels of achievement were related to the amount of content covered and mastered. Hence the pacing of a lesson can be controlled to enhance learning. Academic engaged time refers to the percentage of the allotted time for a subject during which students are actively engaged. A range of studies (Rosenshine & Berliner, 1978) has highlighted the reduction in engagement that occurs when students work alone as opposed

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to working with a teacher in a small group, or as a whole class. The choral responding typical of Direct Instruction programs is one way of ensuring high student engagement. As an example, the author counted 300 responses in the 10 min of teacher-directed decoding activity in a Year 7 reading group (Hempenstall, 1996).

A strong focus on the academic was found to be characteristic of effective teachers. Nonacademic activities, while perhaps enjoyable or directed at other educational goals, were consistently negatively correlated with achievement. Yet in Rosenshine's (1980) review of studies it was clear that an academic focus rather than an affective emphasis also produced classrooms with high student self-esteem and a warm atmosphere. Less structured programs and teachers with an affective focus had students with lower self-esteem. Teacher-centred rather than student-centred classrooms had higher achievement levels. Analo-

gously, teachers who were strong leaders and did not base their teaching around student choice of activities were more successful. Solomon and Kendall (as cited in Rosenshine, 1980) indicated that permissiveness, spontaneity, and lack of classroom control were "negatively related, not only to achievement gain, but also to positive growth in creativity, inquiry, writing ability, and self-esteem for the students in those classrooms" (p. 18).

The instructional procedure called demonstration-practice-feedback (sometimes, model-lead-test) has strong research support. This deceptively simple strategy combines in one general model three elements of teaching strongly related to achievement. It comprises an invariant sequence in which a short demonstration of the skill or material is followed by guided practice, during which feedback is provided to the student (and further demonstration if necessary). The second phase usually involves response to teacher questions about the material previously presented. It would appear that the over learning this phase induces is particularly valuable. The third phase, that of independent practice, is later evaluated by the teacher. Medley's (1982) review indicated the efficacy for low SES students of a controlled practice strategy involving low cognitive level questions, a high success rate (above 80%), and infrequent criticism. The popularity among many teachers of high cognitive level questions implicit in discovery-learning models is difficult to justify empirically. These high level questions require students to manipulate concepts without having been shown how to do so. Research on discovery approaches has indicated a negative relationship with student achievement. Winnie's (1979) review of 19 experimental studies on higher order questions made this point very strongly, as did Yates (1988).

To summarize the findings of research into teacher variables with a positive

impact on student learning, Rosenshine and Berliner (1978) provide a definition for direct instruction, a concept related to but distinct from Direct Instruction.

> Direct instruction pertains to a set of teaching behaviors focussed on academic matters where goals are clear to students; time allocated for instruction is sufficient and continuous; content coverage is extensive; student performance is monitored; questions are at a low cognitive level and produce many correct responses; and feedback to students is immediate and academically oriented. In direct instruction, the teacher controls the instructional goals, chooses material appropriate for the student's ability level, and paces the instructional episode. (p. 7)

Effective Teaching and LEP Students

Of course the principles of effective teaching can be equally applied in a bilingual program, in a structured immersion program, or in any of their variants, and the presence of these principles may be more potent than the language of instruction (Slavin, 2004). Interestingly, *Open Court* (Adams et al., 2002), a literacy program that has been recommended as effective (American Federation of Teachers, 1998; Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998), has now been released in a K–6 Spanish-translated version, *Foro Abierto Para la Lectura*. Its publication is based upon the belief that LEP students have the best chance of achieving English literacy when they first learn to read in their native language. Its sole intention is to teach children how to read, write, and communicate in Spanish, employing an explicit, structured, scripted, code-emphasis approach.

In their review of research, Gersten et al. (1999) revealed that those approaches that adapt the effective teaching findings produce stronger outcomes for LEP students, especially in basic skills, than do the approaches that favor innovation over rigor. Further, they argue that the research emphasis is best directed away from head to head, apples versus oranges comparisons, and rather focused on manipulating a few variables whilst controlling other potentially confounding variables. One of the problems in making pronouncements about the relative effectiveness of bilingualism and structured English

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immersion has involved the amount of noise introduced by marked variations in instructional features within the approaches. Given that the structured nature of the bilingually-based approach *Foro Abierto Para la Lectura* is similar to that of the structured English immersion model described earlier, opportunities for a comparison of outcomes would be feasible and may provide useful outcome comparison research opportunities.

Observation Tools

A device that may assist in this fine-grained analysis is the *Ecobehavioral System for the Contextual Recording of Interactional Bilingual Environments* (ESCRIBE) (Arreaga-Mayer, 1992; Arreaga-Mayer, Carta, & Tapia, 1994).

It enables the recording of ecobehavioral variables (i.e., instructional environment, teacher and student variables), and is based on a 15-s momentary-time sampling system enabling reliable record keeping.

The ESCRIBE code allows for the recording of:

1. the variety of regular and special education service delivery settings in which instruction is delivered,
2. the type of instructional model used,
3. the range of teacher-to-student ratios that occur,
4. the actual activity engaged in by the target student,
5. the materials the student is using during instruction and the language of the material,
6. the size of the instructional grouping in which the target student receives instruction,
7. the variety of teaching persons who deliver instruction to the target student,
8. the behavior of teaching persons as well as the persons to whom that behavior is directed,
9. the languages used for and during instruction,
10. the corrective/affirmative characteristics of the discourse,
11. the concurrent recording of academic and verbal interaction behaviors of the target student,
12. the languages used by the target student, and
13. the initiating and responding characteristics of the student's language (para 10).

This instrument may provide a level of objectivity often missing in more subjective, holistic observation schedules. While directing attention to well-defined behavioral and contextual variables, it also ensures that student passivity is noted. It is through careful attention to detail that researchers

have noticed such surprising findings as only 21% of the time did observed students in English-language development classes use written or oral language (Arreaga-Mayer & Perdomo-Rivera, 1996). Just because time is scheduled for a particular activity doesn't mean that the intended activity actually occurs. Just as a microscope provides a different perspective to that of the naked eye, so too can an ecobehavioral observation system like ESCRIBE offer a different perspective on a classroom lesson.

Current Research Themes

Gersten and Baker (2000) argue for the emergence of several important themes from the research that when addressed are likely to be beneficial to LEP students. One of the themes relates to the passivity of students described in the paragraph above—a characteristic of many classrooms for LEP students, whether conducted in English or in students' native tongue. The importance of high rates of student response was raised earlier, and deserves greater emphasis in curriculum planning.

There is also a concern that insufficient time is being devoted to promoting English language acquisition. Gersten and Baker (2000) suggest that studies are needed to explore a better balancing of the provision of instructional time, resources, and strategies in order to produce *both* curriculum mastery and language development. Related to this is the need to discern the optimal ratio of conversational and academic oral language activities—an objective that classwide peer tutoring (Klingner & Vaughn, 1996) and cooperative learning groups (when highly structured) may be useful in addressing (Slavin, 2004).

Another theme highlights the importance of investigating explicit programs that have been demonstrably effective with other learners, a number of which have been described above. Gersten and Baker (2000) also point to the need to be alert to the need for any modifications that may enhance such programs' effectiveness with LEP students. This capacity to tailor interventions to meet the idiosyncratic needs of a particular group has been called situational empathy (Hempenstall, 1996) in recognition of the process involved in ensuring an intervention is effective. The teacher asks the question—what may interfere with the effectiveness of the intervention

> *A teacher's acceptance of responsibility for ensuring that interventions are successful does provide an added burden, but it has benefits in increased effectiveness and in a clearer understanding of the complexities of the profession.*

in this situation? Put more positively— what steps should I take to give this intervention strategy the best possible opportunity to be successful in this situation? In order to list the potential obstacles to success, the teacher figuratively enters the environment of the LEP students through observation, questioning, past experience, or through consultation with other experienced teachers. The process is analogous to that involved in program field trials in which the responses of students to a program produce the data from which appropriate program modifications are enabled.

This skill is a high order one, and should continue to develop across a teacher's career. The proviso is that the teacher maintains this mental set and remains committed to evaluation;

otherwise, similar errors may continue to be made without the teacher ever becoming aware of them. One outcome of this latter scenario is a tendency to blame the intervention content rather than the intervention delivery. Thus, one may lose faith in an effective approach when the problem lies in a different domain. An example of this phenomenon is sometimes seen when home-based parent-reading programs are introduced without examining the household situation. Despite the fact that an excellent program may be adopted, some factors that may preclude satisfactory implementation are previous daily time commitments, work schedules, parent literacy skills, parent-child relationship, parent assertiveness, student levels of resistance, marital relationship, between-parent support, and/or parent mental health.

There are many such potential problems capable of scuttling an otherwise well-researched and developed program. For example, teachers, without an understanding of its principles, may be tempted to reduce the structure, fail to correct errors, omit sections, ignore firming procedures, and provide less practice. When a lack of success becomes evident, they may discard a program instead of recognizing the true source of the problem. Even worse is the possibility that blame may be shifted to the student or family to account for the intervention failure. A teacher's acceptance of responsibility for ensuring that interventions are successful does provide an added burden, but it has benefits in increased effectiveness and in a clearer understanding of the complexities of the profession. Despite this emphasis on tailoring programs to meet particular circumstances when necessary, Fitzgerald (1995) found no evidence that LEP students require unique forms of instruction in basic skills.

Other areas for investigation include the optimum means of ensuring vocabulary growth, and the importance of

the introduction of strategically significant words. Most beginning English readers have an oral vocabulary of about 10,000 words (Labov, 2003). Having commenced, school students learn the meanings of words at the rate of 3,000 to 4,000 per year, yet only about 300 to 500 new words are taught directly in a year (Osborn & Armbruster, 2001). This occurs because most vocabulary development throughout elementary school is largely a consequence of reading (Johnson, 2001). LEP students are thus doubly disadvantaged in their vocabulary development. Those who know only a few words in English can comprehend little of that which they read, and because they are able to recognise few words, their volume of reading is minimal. Thus, their vocabulary does not keep pace with their English proficient peers—unless they make accelerated progress.

To avoid this LEP-specific Matthew Effect (Stanovich, 1986), teachers must take care in selecting and teaching only the most productive vocabulary. According to the teachers involved in the Gersten and Baker (2000) focus groups, introducing more than seven novel words per lesson produces diminishing returns. Additionally, for each new word, spaced practice should be scheduled to enhance retention and increase the likelihood of its continued use.

Some other fine-grained recommendations include using visuals (such as concept maps) for reinforcement of language concepts when possible, with the caveat that teachers be trained in how to employ them effectively.

There was a concern expressed about the retrograde effects of teachers' routinely teaching concepts in both languages. It obviously takes longer than monolingual explanations, and appears not to advance comprehension significantly (Ramirez, as cited in Gersten & Baker, 2000). Yet, there was agreement that, at times when curriculum complexity far exceeded students' comprehension, translation into the native language could be an effective strategy. Similarly, reducing the language complexity of the teachers' English explanations can make a considerable difference to student comprehension. There can also be advantages (only when complex questions are involved) in teaching LEP students to employ their first language when constructing answers that they will then provide in English.

Finally, Gersten and Baker (2000) warn against spending inordinate time developing conversational language to the detriment of the formal English language principles necessary to enable academic progress. They argue that language development and academic growth should be considered as separate goals. Whether by English immersion or bilingual instruction, the LEP student needs to complete more learning in the same time as students born into the dominant culture. The LEP students are also likely to have difficulties additional to that of language. Thus, the expectation of learning more than the average home grown student may be unrealistic in normal circumstances. Educationists attempting to produce such accelerated learning have control over curriculum and time. The logical responses are, first, to increase the effective available time through an extended school day and/or year. The second response is to increase the opportunities for learning, employing only programs and strategies with evidence for their effectiveness, presented in small groups to enable extensive dialogue between teacher and student (Baker, 1998). Since the Direct Instruction programs are also demonstrably effective with other learner groups, then principles of integration and parsimony make the curricula an obvious choice. *ADI*

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