JOURNAL OF EDUCATION FOR STUDENTS PLACED AT RISK, *10*(4), 363–385
Copyright © 2005, Lawrence Erlbaum Associates, Inc.

English Language Learners in U.S. Schools: An Overview of Research Findings

Fred Genesee
Department of Psychology
McGill University

Kathryn Lindholm-Leary
Department of Child and Adolescent Development
San Jose State University

William Saunders
California State University–Long Beach

Donna Christian
Center for Applied Linguistics

This article reviews findings from scientific research that has been conducted in the United States since 1980 on the educational outcomes of English language learners (ELLs). The studies selected for review here are a subset of a more comprehensive body of research conducted during this period that is reported in Genesee, Lindholm-Leary, Saunders, and Christian (in press). Major findings on the oral language, literacy, and academic achievement of ELLs are discussed in 3 separate sections of this article, in addition to a discussion of the gaps and shortcomings in current research in each domain. Recommendations for future research are also presented, including the need for sustained theory-driven research that examines the longitudinal development of and influences of instruction on the oral language, literacy, and academic skills of diverse groups of ELLs across the K–12 span.

Request for reprints should be sent to Fred Genesee, Psychology Department, McGill University, 1205 Penfield, Montreal, Quebec H3A 1B1, Canada. E-mail: genesee@ego.psych.mcgill.ca

We hear regularly from the popular media and the education press about the persistent achievement gap between English language learners (ELLs)[1] and native English speakers. According to a compilation of reports from 41 state education agencies, only 18.7% of students classified as limited English proficient met state norms for reading in English (Kindler, 2002). Students from language minority backgrounds also have higher dropout rates and are more frequently placed in lower ability groups than English-background students (Ruiz-de-Velasco & Fix, 2000).

Across the nation, the number of students from non-English speaking backgrounds continues to rise. They represent the fastest growing segment of the student population by a wide margin. From 1991–1992 through 2001–2002, the number of identified ELLs in public schools (K–12) grew 95%, while total enrollment increased by only 12%. In 2002–2003, more than 5 million school-age children were identified as ELLs, 10.2% of the K–12 public school student population (Padolsky, 2004). These students speak more than 400 languages, but nearly 80% are native Spanish speakers (Kindler, 2002).

The increasing number of students for whom English is an additional language is particularly significant in light of educational policy that calls for high standards and strong accountability for schools and students. *No Child Left Behind*, the 2001 reauthorization of the Elementary and Secondary Education Act, calls for annual tests of reading and mathematics for all students at certain grade levels (in schools receiving Title I and Title III funds) and deliberately includes ELLs in state accountability systems. Although schools may exempt ELLs from achievement testing in English for up to 3 years, they must assess English language proficiency annually (with no exemption period). Improved education is key to improving ELLs' performance on these tests and narrowing the achievement gap. Research results can and should inform such improvements.

The research synthesis effort reported on in this article was developed with this context in mind (for the full report, see Genesee, Lindholm-Leary, Saunders, & Christian, in press). Conducted under the auspices of the Center for Research on Education, Diversity & Excellence (CREDE), its goal was to synthesize available research on the oral language, literacy, and academic development of ELLs from Pre-K through 12th grade. A team of 13 researchers knowledgeable about the education of ELLs was involved in the synthesis developing parameters, discussing

[1]We use *English language learner* as the term for students who first learn a language other than English in their home and community (U.S. born or immigrant) and then learn English as a new language. When they enter school in the United States, they may or may not have some knowledge of English, but they are not yet fully proficient. In the past, a more common label for these students was *limited English proficient*. This term has a legislative history in the federal government and remains the one in use in federal policy contexts. Detailed legal definitions are provided in such legislation as the *No Child Left Behind Act* of 2001 to specify terms for eligibility for services and applicability of various requirements. Other terms often used include *non-native English speaker, language minority student*, *ESL (English as a Second Language) student*, or *bilingual student*.

findings of literature searches, and reviewing drafts of the report. Subgroups took the lead on the three domains to be covered in the synthesis (oral language, literacy, academic achievement), and all sections were reviewed by the full team.

Our synthesis is based on a systematic review of the research literature. Our goal was to be as comprehensive as possible with respect to this student population. Our search review was guided by a number of criteria. Specifically, it focused on research that was empirical, conducted in the United States, and published in English in peer-reviewed journals or technical reports during the preceding 20 years. Research was included if it focused on the oral language, literacy, and academic development of ELLs; included empirical outcome measures in English; and was concerned with learners in Pre-K through 12th grade. Books, book chapters, and dissertations were not included because of the lack of peer review. The synthesis examined only English learners and did not consider research on ethnic minority or immigrant students except as the samples and results specifically address ELLs.

The team searched large databases of language and education materials, including the Education Resources Information Center, Linguistics and Language Behavior Abstracts, and PsycInfo. The team went through a number of education journals by hand to ensure coverage; they also reviewed technical reports from several federally funded research centers. This initial round of searching yielded more than 4,000 articles and reports for consideration. Many of these turned out to be outside the scope of the synthesis. Ultimately, after criteria for relevance and quality were applied, following the guiding principles for scientific research in education identified in the Shavelson and Towne (2001) report, the final corpus for the synthesis contained approximately 200 articles and reports. Given the demographic characteristics of the United States, however, most of the published research on ELLs focuses on low-income native Spanish speakers, and the largest number of studies involve elementary school-age students. This will undoubtedly limit the generalizability of the results to other language, age, and socioeconomic groups, but it also highlights areas where future research is clearly needed.

As the research was being identified and evaluated, themes were proposed to organize the synthesis in each domain. The studies in the corpus were grouped by these domains (some studies fit more than one), and syntheses of their findings were drafted. Through several revisions, themes were revisited and modified to better fit the research base that was found. In the process, the team identified strengths and gaps in the research base. As the syntheses were finalized, recommendations on future directions for research in this area were developed.

This article reports selected highlights from the full synthesis, covering the three domains of oral language, literacy, and academic achievement related to the education of ELLs. The final section offers suggestions for future research. For a fuller account, see our CREDE synthesis volume (Genesee et al., in press).

ORAL LANGUAGE DEVELOPMENT

Although the design of programs for ELLs varies in terms of the use of the native language (L1), most programs recommend daily oral English language instruction until students achieve at least a minimum level of proficiency (Genesee, 1999). Despite the centrality afforded English oral language development in both theory and practice, the empirical literature on oral language development in ELLs is relatively small. Several important findings emerged, however, as we reviewed studies that focused on language development, school factors, nonschool factors, and assessment. In the section that follows, we discuss selected findings from the larger review related to the following topics: the importance of English LLLLL (L2) oral language, the time it takes for ELLs to develop proficiency, the nature and effects of L2 use, and the role of language learning strategies.

Importance of L2 Oral Language

The development of L2 oral language is vital to the school success of ELL students. It seems reasonable to assume that as oral language proficiency develops, one's capacity to further learn, acquire, and use that language also increases. In fact, this is supported by existing evidence. With increasing English oral proficiency, ELLs are more likely to use English, and increased use of English tends to be associated with subsequent gains in English oral proficiency (Chesterfield, Chesterfield, Hayes-Latimer, & Chavez, 1983; Saville-Troike, 1984). Similarly, with increasing oral proficiency in English, ELLs are more likely to interact and establish friendships with fluent and native English-speaking peers, providing them with additional opportunities to use English (Strong, 1983, 1984). With increasing English oral proficiency, ELLs also tend to use more complex language learning strategies—specifically, strategies that allow them to more effectively interact with others and monitor their own language use and the language use of others (Chesterfield & Chesterfield, 1985). Moreover, as ELLs' oral English proficiency develops, they demonstrate a wider repertoire of language skills, including skills associated with more academic uses of language—particularly, higher level question forms (Lindholm, 1987; Rodriguez-Brown, 1987) and *definitional skill*, which is the capacity to define what words mean (Carlisle, Beeman, Davis, & Spharim, 1999; Snow, Cancino, Gonzalez, & Shriberg, 1987).

Several studies provide evidence of a positive relation between English oral proficiency and English reading achievement (Carlisle, Beeman, Davis, & Sparim, 1999; Garcia-Vázquez, Vázquez, Lopez, & Ward, 1997; Goldstein, Harris, & Klein, 1993; Royer & Carlo, 1991; Saville-Troike, 1984; Snow, Cancino, Gonzalez, & Sriberg, 1987; Ulibarri, Spencer, & Rivas, 1981). This relation holds across Grades 1–9 and for several different measures of oral proficiency and several different standardized measures of reading achievement. The relation between Eng-

lish oral proficiency and English reading achievement is stronger for measures that are linked to more academic aspects of language proficiency. For example, measures of the unique vocabulary that ELLs use during an interview correlate more strongly with reading achievement than the total number of words that they use during the interview ® = .63 and r = .40, respectively; Saville-Troike, 1984). Furthermore, measures of the quality of the content of ELLs story-retells correlate more strongly with reading achievement in English than the correctness of the English that they use in their retells (Goldstein et al., 1993). The relation between English oral proficiency and English literacy seems to strengthen substantially across the grades, arguably because both are similarly influenced by schooling and both are indicative of academic success. For instance, in one study (Snow et al., 1987), correlations between English reading achievement and measures of the quality of ELLs' word definition tripled across Grades 2 to 5 ® = .16 for Grade 2 and r = .50 for Grade 5).

Development of L2 Oral Proficiency Over Time

English L2 oral proficiency develops over time (Hakuta, Butler, & Witt, 2000; Howard, Christian, & Genesee, 2003; Lindholm-Leary, 2001; Medina & Escamilla, 1992; Thomas & Collier, 2002; Weslander & Stephany, 1983). The rate at which ELLs achieve advanced levels of oral language proficiency in English is of considerable interest, at least in part because of the long-standing policy debate about how long ELLs should receive federally funded services. Current evidence suggests ELLs typically require 3 to 5 years to achieve advanced proficiency in oral English. Progress from beginning to middle levels of proficiency is relatively rapid, but progress from middle to upper levels of proficiency is slower. For example, in one study, cross-sectional analysis of ELLs in an all-English program (Hakuta et al., 2000) found mean levels of oral proficiency increased from 1.75 to 4.35 to 4.80 in Grades 1, 3, and 5, respectively (scale = 1–5; total N = 1,875). Results from other studies (Howard et al., 2003; Lindholm-Leary, 2001; Thomas & Collier, 2002) show a similar pattern across Grades 1 through 5. This same pattern was obtained regardless of whether students participated in bilingual or all-English programs. In fact, the overall pattern of development of oral proficiency is consistent for ELLs learning English and for native English speakers learning Spanish in two-way bilingual programs.

L2 Language Use and L2 Oral Proficiency

English language use both in the classroom and outside of school is positively associated with the development of English proficiency. Studies reviewed for this synthesis also indicate, however, that the effects of English use, in and of itself, are probably limited. For example, on the one hand, some classroom studies indicate,

in general, that increased use of English is positively associated with improved English proficiency: ELLs that tend to use English more than the L1 in the classroom during interactions with teachers and peers tend to make stronger gains in English (Chesterfield et al., 1983; Saville-Troike, 1984). On the other hand, these effects can vary as a function of ELLs' level of language proficiency and with whom they interact in English. Less proficient students might benefit more than more proficient ELLs from increased interactions in English, specifically with their teachers rather than from increased interactions with their peers (Chesterfield et al., 1983).

A similarly qualified assessment of language use effects comes from studies of paired and small group activities that integrate ELLs and English-proficient students. Most programs for ELLs incorporate some provision for the integration or mixing of ELLs and native or fluent English speakers (Genesee, 1999). The assumption is that such integration, aside from its potential social benefits, provides ELLs with worthwhile language learning opportunities. The evidence, however, suggests that creating such opportunities and producing positive oral language outcomes involves more than simply pairing ELLs with native or fluent English speakers. Careful consideration must be given to the design of the tasks that students engage in, the training of non-ELLs who interact with ELLs, and the language proficiency of the ELLs themselves (August, 1987; Johnson, 1983; Peck, 1987). If careful attention is not paid to these factors, "mixing" activities tend not to yield language learning opportunities at all (Cathcart-Strong, 1986; Jacob, Rottenberg, Patrick, & Wheeler, 1996).

Studies that examined language use outside of school suggest a positive relation between English language use and English oral proficiency. ELLs from families that report using English relatively more frequently tend to demonstrate higher levels of English proficiency than ELLs from families that report using English less frequently. (e.g., English and the L1 used equally versus English used some of the time and the L1 used most of the time; Hansen, 1989; Pease-Alvarez, 1993; Umbel & Oller, 1994). One study suggests, however, that, although English use at home can make a significant contribution to English language development, in general, English use at school probably plays an even more significant role in supporting higher levels of English language and literacy development. The use of English at home was a stronger predictor of English oral proficiency than English use at school, but English use at school proved to be a stronger predictor of English reading achievement than did English use at home (Hansen, 1989).

Language Learning Strategies

The use of language learning strategies often characterize L2 acquisition because ELLs are typically older and more mature than L1 learners, and they already have competence in L1. Thus, English L2 acquisition does not call on exclusively im-

plicit processes, but it can also entail conscious or explicit strategies. More proficient ELLs demonstrate a wider repertoire of language learning strategies than less proficient ELLs. These strategies appear to be hierarchical and emerge in the same relative order, from receptive, to interactive, to language and communication monitoring strategies (Chesterfield & Chesterfield, 1985). For example, during early stages of English L2 acquisition, ELLs rely heavily on receptive strategies, like repetition and memorization, as they learn words and phrases. During middle stages, ELLs begin to use more interactive strategies, such as verbal attention-getters and elaboration, to engage in and sustain interactions with others. During more advanced stages of L2 acquisition, ELLs use language and communication monitoring strategies, such as requesting clarification and appealing for assistance, to maintain and, as needed, repair communication with interlocutors. One study suggests that explicit instruction on how to use strategies effectively, especially metacognitive strategies, might be beneficial for ELLs (O'Malley, Chamot, Stewner-Manzanares, Russo, & Kupper, 1985).

Summary

Existing research highlights the important role that English oral language development can play in the overall process of English language acquisition. With development and increased proficiency in English, ELLs are better able to engage in more academic uses of language. They also possess a wider repertoire of language learning strategies. Measures of English oral proficiency that are related to the academic uses of English correlate positively with English reading achievement. At the same time, despite the apparent self-perpetuating nature of English oral language development (greater proficiency leads to greater capacity and perhaps increasing opportunities to advance one's proficiency), the factors that influence English oral development are complex. Studies of language use inside and outside of school suggest that mere exposure to English is likely a necessary but not a sufficient condition for advanced levels of English language proficiency. Results from studies on rates of development suggest that acquiring proficiency in English requires several years. We do not know from existing research, however, whether these rates of attainment are inherent to the language learning process itself or to the effects of schooling on oral language development. As a result, we do not know to what extent ELLs' rates of achievement in oral English can be accelerated.

LITERACY

Studies on the development of literacy in English as a second language encompass a broad array of topics. Owing to space limitations, we limit our review here to selected findings from studies that address learner and instructional issues. The com-

plete review includes discussions of findings related to language of instruction, family literacy practices, L1 use at home, other community factors, Sssss Eeeee Sssss (SES), and assessment.

Learner Issues

The results of research on English-L2 literacy development indicate that it is similar in some important and fundamental respects to L1 literacy development. Both types of literacy development are influenced by learners' oral language skills and by metacognitive skills linked to reading. The relation between English oral skills and English literacy, however, is more complex for ELLs than it is for native English-speaking students. A primary reason for this is the mediating influences of ELLs' L1, to be discussed shortly. As in English-L1 literacy development, some minimum level of oral proficiency in English is necessary for English-L2 literacy development, and children with well-developed English-L2 oral skills achieve greater success in English reading than children with less well-developed skills (Reese, Garnier, Gallimore, & Goldenberg, 2000). Aspects of English oral competence that are related to literacy and/or academic tasks are particularly influential in English-L2 literacy development, more so than general L2 oral language abilities. More specifically, achievement in English reading, including comprehension, is significantly related to diversity and depth of ELLs' vocabulary knowledge in English (Perez, 1981; Saville-Troike, 1984) and to their understanding of underlying story structure and meaning (Goldstein et al., 1993; Peregoy & Boyle, 1991), whereas it is not related to general measures of L2 oral proficiency (e.g., as assessed by self-ratings) or knowledge of surface structure elements of sentences and stories. Also, as has been found in research on English-L1 literacy development, phonological awareness in English-L2 correlates significantly with English-L2 reading skills (e.g., Carlisle et al., 1999). Phonological awareness is most directly linked to word decoding and only indirectly to comprehension via word decoding. Thus, ELLs with well-developed phonological awareness skills in English acquire initial reading skills more easily than ELLs with poorly developed phonological awareness skills in English.

At the same time, findings from this body of research indicate that English-L2 literacy development can proceed even if students have limited L2 oral proficiency if they have well-developed skills in certain L1 domains (e.g., Lanauze & Snow, 1989; Reese et al., 2000). Cross-language influences of this sort are most evident during the early stages of L2 literacy development and become less evident (and arguably less necessary) later as ELLs acquire more advanced and proficient skills in English, which can serve as the primary basis for reading and writing in English. This makes sense because ELLs who are in the early stages of literacy development lack resources in the target language (English) but have analogous skills in the L1 and can bootstrap themselves into L2 literacy by drawing on L1 language

and metacognitive resources. Phonological awareness in the L1, for example, correlates significantly with the acquisition of decoding skills in English-L2. Thus, ELLs with limited L2 oral language competence are likely to draw on L1 phonological awareness skills to scaffold the acquisition of early decoding skills while analogous phonological awareness skills in English develop. In effect, these findings from studies of L2 and L1 oral proficiency indicate that there are two routes to initial literacy in English-L2: one via skills that have been acquired in the target L2 and one via skills that are linked to the L1 in cases when ELLs lack well-developed L2 skills.

Other L1-related language skills are also linked to L2 reading/writing development. Once again, L1 features that are related to literacy and/or academic or higher order cognitive uses of language are more influential in English-L2 literacy development than more general aspects of L1 oral development (e.g., overall oral proficiency or use of the L1 at home). In particular, English-L2 literacy development is influenced by emergent literacy in the L1 and being read to in the L1 at home (Reese et al., 2000); knowledge of L1–L2 cognate vocabulary (Jiménez, Garcia, & Pearson, 1996; Langer, Barolome, & Vasquez, 1990; Nagy, Garcia, Durgunoglu, & Hancin-Bhatt, 1993); knowledge of sound–letter relations in the L1 (Fashola, Drum, Mayer, & Kand, 1996; Zutell & Allen, 1988); and phonological awareness in the L1, as previously noted (Carlisle et al., 1999). In most cases, these cross-language influences are facilitative so that ELLs with emergent L1 literacy skills, prior experiences with L1 literacy in the home, knowledge of cognate vocabulary, and well-developed L1 phonological awareness acquire reading skills in English more readily than ELLs who lack these L1 skills. In other cases, there can be "negative" cross-language influences, as when Spanish-speaking ELL students erroneously apply Spanish-L1 phonological and orthographic rules to English spelling. Even in these cases, however, it is important to keep in mind that these effects speak to an active and productive strategy on the part of ELLs in the initial stage of learning to read and write to draw on relevant, albeit inappropriate, knowledge about the L1 to bootstrap into English reading and writing.

Evidence of cross-language influences in the development of English-L2 literacy skills also comes from studies that have examined the metacognitive strategies used by ELLs during L1 and L2 literacy tasks. In brief, these studies report that (a) successful ELL readers/writers employ a number of effective strategies (e.g., inferencing, the use of context and prior knowledge, and monitoring of comprehension) to comprehend text in English and that (b) they use these strategies during both L1 and L2 literacy tasks. These strategies resemble those used by successful English-L1 readers/writers (Jiménez et al., 1996; Padron & Waxman, 1988). Successful ELL readers/writers also view reading and writing in English and the L1 as similar activities with language-specific differences. At the same time, they are able to deploy a variety of effective bilingual strategies, such as searching for L1–L2 cognates, judicious translation, or use of prior knowledge developed in the

L1 (Jiménez et al., 1996), suggesting that ELLs have a unique bilingual reservoir of cross-language skills to draw on when engaged in L2 literacy tasks.

In contrast, less successful ELLs view reading in the L1 and the L2 as separate abilities and see the L1 as a source of confusion. That unsuccessful ELL readers/writers view L1 and L2 reading in these ways suggests that they do not develop an understanding of the commonalities in L1 and L2 literacy. As a result, they are unable to draw on similarities and connections between their two languages in the service of L2 reading and writing. Jiménez (2000) suggested that unsuccessful ELL readers may need explicit opportunities to learn about similarities between the languages (e.g., with respect to sound–letter correspondences or cognate vocabulary) if they are to benefit from L1-based strategies (see also Langer et al., 1990).

Finally, studies on the relation between L1 literacy and L2 literacy development also offer evidence of cross-language facilitation. ELLs with initial L1 literacy experiences, such as emergent and family literacy, as well as those with well-developed L1 literacy skills, progress more quickly and successfully in L2 literacy than ELLs without these experiences and skills (Collier, 1987; Reese et al., 2000; Royer & Carlo, 1991). In a related vein, Reese et al. reported that ELLs who were identified as the best L1 readers were able to transition to English reading instruction earlier than other students. Thus, contrary to claims that maintenance and continued development of ELLs' L1 can impede L2 literacy development because they divert time that could be spent learning English-L2, there is little empirical evidence that continued use or development of the L1 detracts from English-L2 literacy development. To the contrary, extant evidence argues for additive cross-language effects in literacy development in those domains that promote reading/writing and higher order academic or cognitive tasks.

Instructional Issues

Research on instructional practices has examined a wide variety of different methods, techniques, and strategies for promoting the reading and writing skills of ELLs. For the purposes of this review, each study was classified according to one of three major approaches: (a) direct, (b) interactive, and (c) process based. Briefly, *direct instruction* emphasizes the explicit and direct instruction of specific reading/writing skills and strategies. *Interactive instruction* emphasizes learning that is mediated through interaction with other learners or more competent readers and writers (e.g., the teacher). The goals of interactive approaches include specific literacy skills and strategies, as well as other literacy-related outcomes (e.g., engagement in reading/writing and autonomy as a reader/writer). *Process-based instruction* emphasizes engagement in the authentic use of written language for communication or self-expression. Process-based approaches de-emphasize

teaching the component skills and strategies of reading and writing in favor of learning through induction. Caution is called for in using these distinctions because they are not mutually exclusive, and, in fact, a number of studies were composed of combinations of approaches.

Studies of interactive approaches attest to their effectiveness in general (e.g., McLaughlin et al., 2000; Padron, 1992), as well as for students with impaired capacities for learning (Rousseau & Tam, 1993), although evidence for the latter is limited and is compromised somewhat by the use of definitions of impairment that are often overly general. Direct and interactive instruction were frequently combined—many interactive learning environments included direct skills instruction (Doherty, Hilberg, Pinal, & Tharp, 2003; Goldenberg, 1991; Saunders & Goldenberg, 1999), and a number of studies of classrooms whose primary classification was direct included interactive components (e.g., Padron, 1992). Studies of classrooms that employed direct instruction as a primary approach or as part of a combined approach attest to the effectiveness of direct instruction. In contrast, evidence for the effectiveness of process approaches (including whole language) is mixed at best, with a minority of studies reporting advantages for students who were in process-oriented literacy classrooms, but a majority reporting null advantages and even disadvantages. Researchers who examined process approaches pointed out that simply exposing students to literacy-rich learning environments is not sufficient to promote acquisition of the specific skills that comprise reading and writing. They argued further that focused and explicit instruction in particular skills and subskills is called for if ELLs are to become efficient and effective readers and writers (de la Luz Reyes, 1991; Kucer & Silva, 1999). Thus, process-based approaches that, as a fundamental tenet, exclude direct skills instruction do not fare as well as other approaches that were examined.

Classrooms that combine interactive with direct instruction have much to recommend because they provide instruction in specific reading and writing skills within carefully designed interactive contexts, such as Instructional Conversations (Saunders & Goldenberg, 1999). Interaction between learners and teachers, be they adults or more competent students, is a context in which adaptation and accommodation of individual differences and preferences can be accomplished. Carefully planned interactions in the classroom are also both the medium for delivering appropriate instruction about literacy and academic material and the message itself, insofar as the very language that is used during interactive instruction embodies many key features of language for literacy and broader academic purposes. Direct instruction of specific skills ensures student mastery of literacy-related skills that are often embedded and even obscured in complex literacy or academic tasks. Presenting direct instruction in interactive learning environments ensures that it is meaningful, contextualized, and individualized. The choice of methods will depend, in large part, on the objectives of instruction and learner characteristics. Certain methods, such as the keyword method, will be appropriate for vocabu-

lary development, whereas others, such as brainstorming, will be appropriate for text comprehension and writing.

Summary

In summary, extant research on the development of literacy skills in English as a second language by ELLs indicates that (a) there are important similarities between English-L1 and English-L2 development, and (b) ELLs draw on a host of linguistic, meta-cognitive, and experiential resources. Some of these are linked to the target language, and some are linked to the home language. Some can be conceptualized as common underlying abilities (e.g., phonological awareness, inferencing, monitoring comprehension) that are not language-specific, but are related to underlying cognitive development and are likely to influence acquisition in any language. Some, such as the use of translation and cognates, are linked to the unique bilingual learning experiences of ELLs. Taken together, these studies attest to ELLs' active use of all resources, skills, and strategies at their disposal to acquire literacy skills in English. Findings from research on the effectiveness of alternative instructional approaches to teaching literacy skills indicate that interactive and direct approaches, and a combination of the two, are effective; evidence for the effectiveness of process-based approaches is mixed at best.

ACADEMIC ACHIEVEMENT

The academic achievement of ELLs has received considerable attention, particularly with respect to the underachievement of ELLs. Most researchers have relied on a definition of academic achievement that is limited to outcomes on standardized achievement tests, although some studies use general measures of school attainment, such as grade point average (GPA), high school dropout rates, or attitudes toward school and school-related topics.

Program Issues

Research on the academic achievement of ELLs consists primarily of evaluations of various program models. Much of this work addresses policy issues relating to the best way to educate ELLs. Aggregating across studies, there was strong convergent evidence that the educational success of ELLs is positively related to sustained instruction through the student L1. In both descriptive and comparative program evaluation studies, results showed that length of time in the program and time of assessment affect outcomes. Evaluations conducted in the early years of a program (Grades K–3) typically revealed that students in bilingual education scored below grade level (and sometimes very low) and performed either lower than or equivalent to their comparison group peers (ELLs or non-ELLs in other programs;

e.g., Cazabon, Lambert, & Hall, 1993; Lindholm, 1991). In contrast, almost all evaluations conducted at the end of elementary school and in middle and high school showed that the educational outcomes of bilingually educated students, especially in late-exit and two-way programs, were at least comparable to, and usually higher than, their comparison peers (e.g., Burnham-Massey & Piña, 1990; Curiel, Rosenthal, & Richek, 1986; Fulton-Scott & Calvin, 1983; Ramirez, 1992). There was no study of middle school or high school students that found that bilingually educated students were less successful than comparison group students. In addition, most long-term studies report that the longer the students stayed in the program, the more positive the outcomes. These results hold true whether one examines outcomes in reading or mathematics achievement, GPA, attendance, high school completion, or attitudes toward school and self (e.g., Cazabon, Nicoladis, & Lambert, 1998; Curiel et al., 1986; Lambert & Cazabon, 1994; Lindholm-Leary, 2001; Lindholm-Leary & Borsato, 2001; Thomas & Collier, 2002).

Research was consistent in showing that ELLs who received any specialized program (bilingual or English as a second language) were able to catch up to, and in some studies surpass, the achievement levels of their ELL and English-speaking comparison peers who were educated in English-only mainstream classrooms. These findings indicate further that ELLs who participated in programs that provided extended instruction through the medium of the students' L1 (i.e., two-way immersion and late-exit programs) outperformed students who received only short-term instruction through their L1 (i.e., early-exit programs; e.g., Cazabon et al., 1998; Fulton-Scott & Calvin, 1983; Lindholm, 1991). Students who participated in an assortment of different programs and those who received no special intervention performed at the lowest levels and had the highest dropout rates (e.g., Thomas & Collier, 2002).

One concern about this work is that the definitions of various program models are often vague. In some cases, bilingual education is clearly defined with respect to amount of instruction time devoted to each language and length of duration of the program (e.g., early exit or transitional; late exit or maintenance; e.g., Ramirez, 1992; Thomas & Collier, 2002). In other cases, it is not clear what specialized instruction the students received in their bilingual classroom (Burnham-Massey & Piña, 1990; Curiel et al., 1986; Medrano, 1988; Saldate, Mishra, & Medina, 1985). In nonbilingual contexts, sometimes a mainstream English classroom was labeled structured English immersion, and, in other contexts, structured English immersion included specialized instruction for ELLs (Ramirez, 1992). These definitional issues call for some caution in drawing conclusions from these studies.

Language Influences on Academic Achievement

The studies reviewed here also indicate that bilingual proficiency and biliteracy are positively related to academic achievement in both languages. More specifically, bilingual Hispanic students had higher achievement scores (Fernandez & Nielsen,

1986; Lindholm-Leary, 2001; Nielsen & Lerner, 1986; Rumberger & Larson, 1998), GPAs, and educational expectations (Fernandez & Nielsen, 1986; Nielsen & Lerner, 1986) than their monolingual English-speaking Hispanic peers. In addition, there were significant positive correlations between Spanish reading and English reading, between English reading and English math, and between Spanish reading and Spanish math, suggesting that there are complex but supportive interdependencies in the language, literacy, and academic development of bilingual students (Lindholm & Aclan, 1991; Lindholm-Leary, 2001). These results suggest that educational programs for ELLs should seek to develop their full bilingual and biliterate competencies to take advantage of these developmental interdependencies. At the same time, it is important to point out that, although the research findings reported here are consistent with one another and with previous reviews (August & Hakuta, 1997), the actual research base is scant and is composed mostly of correlational studies.

Program, Instructional, and Assessment Issues

Research reviewed here identified a number of other program factors and instructional characteristics that promoted the academic success of ELLs. Aggregating across the corpus of research, programs that were relatively effective shared the following characteristics:

- A positive school environment (Battistich, Solomon, Watson, & Schaps, 1997; Berman, Minicucci, McLaughlin, Nelson, & Woodworth, 1995; Montecel & Cortez, 2002).
- A curriculum that was meaningful and academically challenging, incorporated higher order thinking (Berman et al., 1995; Doherty et al., 2003; Montecel & Cortez, 2002; Tikunoff, 1985), was thematically integrated (Montecel & Cortez, 2002), established a clear alignment with standards and assessment (Doherty et al., 2003; Montecel & Cortez, 2002), and was consistent and sustained over time (Ramirez, 1992).
- A program model that was grounded in sound theory and best practices associated with an enriched, not remedial, instructional model (e.g., Montecel & Cortez, 2002).
- Teachers in bilingual programs who understood theories about bilingualism and second language development as well as the goals and rationale for the model in which they were teaching (Berman et al., 1995; Montecel & Cortez, 2002).
- The use of cooperative learning and high-quality exchanges between teachers and pupils (e.g., Berman et al., 1995; Calderón, Hertz-Lazarowitz, & Slavin, 1998; Doherty et al., 2003; Montecel & Cortez, 2002; Tikunoff, 1985).

There is little research on how to make instruction more accessible and meaningful to ELLs in areas considered challenging by native English speakers (i.e., science, math). Research indicates the importance of incorporating language development components and sheltering techniques into content instruction (e.g., Berman et al., 1995; Echevarria, Short, & Powers, 2003). Extant research provides some starting points, but a research program that includes linguistically diverse students learning in various content areas is clearly needed. A significant factor to bear in mind for such learners is the cognitive overload that they experience when learning academic content area through a second language. With the increasing significance of technology in society, research should also include systematic investigation of the impact of computer-assisted instruction for ELLs. Dixon's (1995) research is instructive in demonstrating that technology provides a significant vehicle for successful learning, especially with helpful peers.

There are many challenges in assessing the academic achievement of ELLs. Test norms may be inappropriate because of differences between ELLs and students in the norming samples, and language proficiency and other background factors may influence test performance (e.g., Abedi, Lord, & Hofstetter, 1998; Stevens, Butler, & Castellon-Wellington, 2000). Results from the few studies that have investigated testing accommodations suggest that the language of assessment should match the language of instruction and that modifying test questions to reduce language complexity may help narrow the performance gap between native English speakers and ELLs (e.g., Abedi, Hofstetter, Baker, & Lord, 2001).

Summary

Taken together, these results indicate that ELLs are more successful when they participate in programs that are specially designed to meet their needs (ESL, bilingual, etc.) than in mainstream English classrooms and when the program is consistent throughout the student education. A program that is enriched, consistent, provides a challenging curriculum, and incorporates language development components and appropriate assessment approaches is also supported by the findings of the research in this corpus.

FUTURE RESEARCH DIRECTIONS

Our review of research on the education of ELLs reveals an overarching need for sustained, theory-driven programmatic research that aims to build and test models of effective teaching and successful learning in school settings with ELLs (see also Shavelson & Towne, 2002, Scientific Principle 2, p. 7). Support for theory-driven research calls for funding agencies and research institutes to support research activities without an emphasis on immediate application. It also calls for political au-

thorities, in their policies and funding initiatives, to balance improving education immediately with expanding our understanding so that education can be improved over the long run. The latter requires time and material resources.

At the same time, consumers of educational research need to appreciate that findings about "best practices" do not necessarily mean "single best practice." Policymakers and the public at large must understand that there is not only one way to teach ELLs effectively. Indeed, it is highly unlikely that a single instructional approach or method is likely to be effective for all ELLs, given the diversity of backgrounds, resources, and challenges that they bring to the learning environment (often within a single classroom), such as stage of development or age/grade at entry to the U.S. educational system. There are alternative ways to achieve satisfactory oral language, reading and writing, and academic outcomes for ELLs.

The complexities of the educational enterprise call for varied and multiple research designs, including case studies, ethnographies, and classic experimental and quasi-experimental designs. As Shavelson and Towne (2002) also noted,

> Scientific claims are significantly strengthened when they are subject to testing by multiple methods. … Particular research designs and methods are suited for specific kinds of investigations and questions but can rarely illuminate all the questions and issues in a line of inquiry. (p. 7, Executive Summary)

Much of the research that we reviewed examined learners at a single grade level or different learners at several grade levels (see Howard et al., 2003, and Reese et al., 2000, for examples of longitudinal study designs). As a result, we have scant understanding of the actual developmental changes that ELLs go through during the acquisition of oral language, reading and writing, and academic skills from beginning level to mature and advanced levels. Research that focuses on ELLs at specific grades can give the impression that what is true for one age group is equally true for another and that what works at one stage of development works at another. We need longitudinal research designs to test the extent to which this is really true. Lacking solid longitudinal research, we risk exposing students at different stages of development to ineffective learning environments. Investigating the developmental changes that the same learners go through from grade to grade would contribute to our understanding of the role of specific maturational, sociocultural, and pedagogical influences on achievement and how these change and interact as learners mature and engage in school and community life.

In the same vein, future research on the codevelopment of oral language, literacy, and academic skills is critical if we are to understand the developmental interdependencies of these interrelated skills and if we are to design educational initiatives that facilitate their codevelopment. There is a particularly strong need for research that examines the links between oral language and literacy development on the one hand, and between oral language development and academic achieve-

ment on the other. We especially need to understand better the differential role of oral language and literacy (whether in L1 or L2) in fostering academic achievement at different grade levels as academic subject matter becomes more abstract, complex, and, arguably, language dependent. This is an especially important issue in the education of ELLs who enter American schools in middle or high school.

We found that the lion's share of research attention has been on ELLs from Hispanic lower socioeconomic backgrounds. There is a need for research on the development of learners from other major ethnolinguistic groups in the United States. Students of Vietnamese, Hmong, Cantonese, and Korean backgrounds should be examined because they are the next most populous groups of ELL students in the United States (Kindler, 2002). Including different ethnolinguistic groups is particularly important in research on the influence of instructional and noninstructional factors to determine if the same constellation of instructional and family/community influences accounts for learning when students come from different SES and language backgrounds. There is also a pressing need for additional research on ELLs in higher grades and on ELLs who enter the U.S. educational system in middle or high school, particularly those with little or no prior schooling. The learning demands on these students are especially challenging, and educators need more research on these particular students if they are to respond effectively to their needs.

Additional research on ELLs with impaired capacities for language and/or academic learning is also needed if we are to address the needs of all ELLs—those with typical ability to learn as well as those with various disabilities. Future research, including studies of the prevalence of impairment among ELLs, would benefit from more detailed documentation of students' specific impairments. In this regard, researchers must be careful to differentiate students with endogenous impairments from those who are simply delayed in their language learning and/or academic achievement because of their second language status. Current published research has shown little sensitivity to these confounding possibilities.

Our review revealed considerable research on alternative instructional approaches and strategies for teaching literacy to ELLs, and a number of important general conclusions emerged from that review. Educators need more than an array of specific methods or activities that they can draw on, however, when planning literacy or academic subjects. They need comprehensive frameworks for selecting, sequencing, and delivering instruction over the course of an entire year and from year to year. Two frameworks that provide such guidance are the Five Standards for Effective Pedagogy (Tharp, Estrada, Dalton, & Yamauchi, 2000) and the Sheltered Instruction Observation Protocol model for integrating language and content instruction (Echevarria, Vogt, & Short, 2000). Although both frameworks enjoy some empirical support (Echevarria et al., 2003; Tharp et al., 2000), extension of this work would serve to expand our understanding of the scope of the effectiveness of these frameworks.

Classrooms vary significantly from one another with respect to number of students, language and cultural backgrounds of students, SES, and prior literacy training, to mention some obvious dimensions of variation. Moreover, classrooms with ELLs often change as students enter and leave. We have little understanding, however, of how classroom composition affects teaching and learning or how teachers cope with classrooms with different compositions of students. Future research is called for that focuses on the classroom as the unit of analysis to better understand the social and intellectual dynamics of classrooms and how to design instruction that is effective in different classroom contexts.

In a related vein, classrooms and the schools in which they are located do not exist in a vacuum. They are part of larger, more complex, and changing communities. Educators often remark on the relationship between the school and the community and the efforts that they make to bring about collaboration between schools and communities. Future research with the community as the unit of analysis would help move us beyond impressionistic speculation to empirically grounded knowledge.

Although issues concerning teachers and professional development are dealt with in a separate contribution to this special volume of *JESPAR*, we emphasize that research attention needs to be paid to teachers, including their levels and kinds of professional development, their understanding of different instructional and assessment approaches, their knowledge and application of second language acquisition theory, and the processes that are required to ensure that new teachers acquire competence in using new approaches.

In closing, our final recommendation is that systematic reviews of research findings on the oral language, reading and writing, and academic development of ELLs be undertaken on a periodic and regular basis. This would permit researchers and educators to take stock of current research on the education of ELLs and our progress in investigating issues critical to planning effective education for these learners.

ACKNOWLEDGMENTS

This work was supported under the Education Research and Development Program, PR/Award R306A60001, the Center for Research on Education, Diversity & Excellence, as administered by the Institute of Education Sciences (IES) of the U.S. Department of Education. The contents, findings, and opinions expressed in this article are those of the authors and do not necessarily represent the positions or policies of IES or the US ED.

The synthesis project was a team effort. Team members in addition to the authors were: Diane August, Gil Cuevas, Else Hamayan, Liliana Minaya-Rowe, Mary Ramirez, Noni Reis, Charlene Rivera, Deborah Short, and Sau-Lim Tsang.

We are grateful to them for the knowledge they shared with the team and the time and energy they put into the synthesis. We also recognize and appreciate the assistance provided by individuals who co-authored specific sections of the full report: Gisela O'Brien for oral language, Caroline Riches for literacy, and Graciela Borsato for academic achievement.

REFERENCES

Abedi, J., Hofstetter, C., Baker, E., & Lord, C. (2001). *NAEP math performance and test accommodations: Interactions with student language background* (CSE Tech. Rep. No. 536). Los Angeles: University of California, National Center for Research on Evaluation, Standards, and Student Testing.

Abedi, J., Lord, C., & Hofstetter, C. (1998). *Impact of selected background variables on students' NAEP math performance* (CSE Tech. Rep. No. 478). Los Angeles: University of California, National Center for Research on Evaluation, Standards, and Student Testing.

August, D. (1987). Effects of peer tutoring on the second language acquisition of Mexican-American children in elementary school. *TESOL Quarterly, 21,* 717–736.

August, D., & Hakuta, K. (Eds.). (1997). *Improving schooling for language minority children: A research agenda*. Washington, DC: National Academy Press.

Battistich, V., Solomon, D., Watson, M., & Schaps, E. (1997). Caring school communities. *Educational Psychology, 32*, 137–151.

Berman, P., Minicucci, C., McLaughlin, B., Nelson, B., & Woodworth, K. (1995). *School reform and student diversity: Case studies of exemplary practices for LEP students*. Washington, DC: National Clearinghouse for English Language Acquisition.

Burnham-Massey, L., & Piña, M. (1990). Effects of bilingual instruction on English academic achievement of LEP students. *Reading Improvement, 27*, 129–132.

Calderón, M., Hertz-Lazarowitz, R., & Slavin, R. (1998). Effects of bilingual cooperative integrated reading and composition on students making the transition from Spanish to English. *The Elementary School Journal, 99,* 153–165.

Carlisle, J., Beeman, M., Davis, L., & Sparim, G. (1999). Relationship of metalinguistic capabilities and reading achievement for children who are becoming bilingual. *Applied Psycholinguistics, 20*, 459–478.

Cathcart-Strong, R. L. (1986). Input generation by young second language learners. *TESOL Quarterly, 20*, 515–529.

Cazabon, M., Lambert, W., & Hall, G. (1993). *Two-way bilingual education: A progress report on the Amigos Program* (Research Rep. No. 7). Santa Cruz, CA: National Center for Research on Cultural Diversity and Second Language Learning.

Cazabon, M., Nicoladis, E., & Lambert, W. E. (1998). *Becoming bilingual in the Amigos two-way immersion program* (Research Rep. No. 3). Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.

Chesterfield, R. A., & Chesterfield, K. B. (1985). Natural order in children's use of second language learning strategies. *Applied Linguistics, 6*, 45–59.

Chesterfield, R. A., Chesterfield, K. B., Hayes-Latimer, K., & Chavez, R. (1983). The influence of teachers and peers on second language acquisition in bilingual preschool programs. *TESOL Quarterly, 17*, 401–419.

Collier, V. (1987). Age and rate of acquisition of second language for academic purposes. *TESOL Quarterly, 21*, 617–641.

Curiel, H., Rosenthal, J. A., & Richek, H. G. (1986). Impacts of bilingual education on secondary school grades, attendance, retentions and drop-out. *Hispanic Journal of Behavioral Sciences, 8*, 357–367.

de la Luz Reyes, M. (1991). A process approach to literacy using dialogue journals and literature logs with second language learners. *Research in the Teaching of English, 25*, 291–313.

Dixon, J. K. (1995). Limited English proficiency and spatial visualization in middle school students' construction of the concepts of reflection and rotation. *Bilingual Research Journal, 19*, 221–247.

Doherty, R. W., Hilberg, R. S., Pinal, A., & Tharp, R. (2003, Winter). Five standards and student achievement. *NABE Journal of Research and Practice, 00,* 1–24.

Echevarria, J., Short, D., & Powers, K. (2003). *School reform and standards-based education: How do teachers help English language learners?* (Tech. Rep. No. 00). Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.

Echevarria, J., Vogt, M. E., & Short, D. J. (2000). *Making content comprehensible for English language learners: The SIOP model.* Needham Heights, MA: Allyn & Bacon.

Fashola, O., Drum, P., Mayer, R., & Kang, S. (1996). A cognitive theory of orthographic transitioning: Predictable errors in how Spanish speaking children spell English words. *American Educational Research Journal, 33*, 825–843.

Fernandez, R., & Nielsen, F. (1986). Bilingualism and Hispanic scholastic achievement: Some baseline results. *Social Science Research, 15*, 43–70.

Fulton-Scott, M. J., & Calvin, A. D. (1983). Bilingual multicultural education vs. integrated and non-integrated ESL instruction. *NABE: The Journal for the National Association for Bilingual Education, 7*(3), 1–12.

Garcia-Vázquez, E., Vázquez, L. A., Lopez, I. C., & Ward, W. (1997). Language proficiency and academic success: Relationships between proficiency in two languages and achievement among Mexican-American students. *Bilingual Research Journal, 21*, 395–408.

Genesee, F. (Ed.). (1999). *Program alternatives for linguistically diverse students* (Educational Practice Rep. No. 1). Santa Cruz, CA, and Washington, DC: Center for Research on Education, Diversity & Excellence.

Genesee, F., Lindholm-Leary, K., Saunders, W., & Christian, D. (in press). *Educating English language learners: A synthesis of the research*. Cambridge, LOCATION: Cambridge University Press.

Goldenberg, C. (1991). *Instructional conversations and their classroom application* (Instructional Practice Rep. No. 2). Santa Cruz, CA: National Center for Research on Cultural Diversity and Second Language Learning.

Goldstein, B., Harris, K., & Klein, M. (1993). Assessment of oral storytelling abilities of Latino junior high school students with learning handicaps. *Journal of Learning Disabilities, 26*(2), 138–143.

Hakuta, K., Butler, Y. G., & Witt, D. (2000). *How long does it take English learners to attain proficiency? Linguistic Minority Research Institute*. (ERIC Document Reproduction Service No. FL 026 180). Retrieved on January 14, 2005, from http://www.stanford.edu/~hakuta/Docs/HowLong.pdf #search''Hakuta%20How%20long%20does%20it%20take%20English%20learners'

Hansen, D. A. (1989). Locating learning: Second language gains and language use in family, peer and classroom contexts. *NABE Journal, 13,* 161–179.

Howard, E. R., Christian, D., & Genesee, F. (2003). *The development of bilingualism and biliteracy from grade 3 to 5: A summary of findings from the Cal/CREDE study of two-way immersion education.* Santa Cruz, CA, and Washington, DC: Center for Research on Education, Diversity & Excellence.

Jacob, E., Rottenberg, L., Patrick, S., & Wheeler, E. (1996). Cooperative learning: Context and opportunities for acquiring academic English. *TESOL Quarterly, 30*, 253–280.

Jiménez, R. T. (2000). Literacy and the identity development of Latina/o students. *American Educational Research Journal, 37*, 971–1000.

Jiménez, R. T., Garcia, G. E., & Pearson, P. D. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly, 31*, 90–112.

Johnson, D. M. (1983). Natural language learning by design: A classroom experiment in social interaction and second language acquisition. *TESOL Quarterly, 17*, 55–68.

Kindler, A. L. (2002). *Survey of the states' limited English proficient students and available educational programs and services: 2000–2001 summary report*. Washington, DC: National Clearinghouse for English Language Acquisition.

Kucer, S. B., & Silva, C. (1999). The English literacy development of bilingual students within a transition whole-language curriculum. *Bilingual Research Journal, 23*, 345–371.

Lambert, W. E., & Cazabon, M. (1994). *Students' view of the Amigos program* (Research Rep. No. 11). Santa Cruz, CA: National Center for Research on Cultural Diversity and Second Language Learning.

Lanauze, M., & Snow, C. (1989). The relation between first- and second-language writing skills: Evidence from Puerto Rican elementary school children in bilingual programs. *Linguistics and Education, 1*, 323–339.

Langer, J. A., Barolome, L., & Vasquez, O. (1990). Meaning construction in school literacy tasks: A study of bilingual students. *American Educational Research Journal, 27*, 427–471.

Lindholm, K. J. (1987). English question use in Spanish-speaking ESL children: Changes with English language proficiency. *Research in the Teaching of English, 21*, 64–91.

Lindholm, K. J. (1991). Theoretical assumptions and empirical evidence for academic achievement in two languages. *Hispanic Journal of Behavioral Sciences, 13*, 3–17.

Lindholm, K. J., & Aclan, Z. (1991). Bilingual proficiency as a bridge to academic achievement: Results from bilingual/immersion programs. *Journal of Education, 173*, 99–113.

Lindholm-Leary, K. J. (2001). *Dual language education*. Avon, England: Multilingual Matters.

Lindholm-Leary, K. J., & Borsato, G. (2001). *Impact of two-way bilingual elementary programs on students' attitudes toward school and college*. Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.

McLaughlin, B., August, D., Snow, C. E., Carlo, M., Dressler, C., White, C., et al. (2000). *Vocabulary improvement and reading in English language learners: An intervention study. Proceedings of a Research Symposium on High Standards in Reading for Students from Diverse Language Groups*. Washington, DC: U.S. Department of Education.

Medina, M., & Escamilla, K. (1992). English acquisition by fluent- and limited-Spanish-proficient Mexican-Americans in a 3-year maintenance bilingual program. *Hispanic Journal of Behavioral Sciences, 14*, 252–267.

Medrano, M. F. (1988). The effects of bilingual education on reading and mathematics achievement: A longitudinal case study. *Equity and Excellence, 23*, 17–19.

Montecel, M. R., & Cortez, J. D. (2002). Successful bilingual education programs: Development and the dissemination of criteria to identify promising and exemplary practices in bilingual education at the national level. *Bilingual Research Journal, 26*, 1–22.

Nagy, W., Garcia, G., Durgunoglu, A., & Hancin-Bhatt, B. (1993). Spanish-English bilingual students' use of cognates in English reading. *Journal of Reading Behavior, 25*, 241–259.

Nielsen, F., & Lerner, S. (1986). Language skills and school achievement of bilingual Hispanics. *Social Science Research, 15*, 209–240.

O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Russo, R., & Kupper, L. (1985). Learning strategy applications with students of English as a second language. *TESOL Quarterly, 19*, 557–584.

Padolsky, D. (2004). *How many school-aged English language learners (ELLs) are there in the U.S.? National Clearinghouse for English Language Acquisition*. Retrieved November 11, 2004, from http://www.ncela.gwu.edu/expert/faq/01leps.htm

Padron, Y. N. (1992). The effect of strategy instruction on bilingual students' cognitive strategy use in reading. *Bilingual Research Journal, 16*, 35–51.

Padron, Y. N., & Waxman, H. (1988). The effect of ESL students' perceptions of their cognitive strategies on reading achievement. *TESOL Quarterly, 22*, 146–150.

Pease-Alvarez, L. (1993). *Moving in and out of bilingualism: Investigating native language maintenance and shift in Mexican-descent children* (Research Rep. No. 6). Santa Cruz: University of California, National Center for Research on Cultural Diversity and Second Language Learning.

Peck, S. (1987). Signs of learning: Child nonnative speakers in tutoring sessions with a child native speaker. *Language Learning, 37*, 545–571.

Peregoy, S., & Boyle, O. (1991). Second language oral proficiency characteristics of low, intermediate and high second language readers. *Hispanic Journal of Behavioral Sciences, 13*, 35–47.

Perez, E. (1981). Oral language competence improves reading skills of Mexican American third graders. *The Reading Teacher, 35*(1), 24–27.

Ramirez, J. D. (1992). Longitudinal study of structured English immersion strategy, early-exit and late-exit transitional bilingual education program for language-minority children (Executive Summary). *Bilingual Research Journal, 16*, 1–62.

Reese, L., Garnier, H., Gallimore, R., & Goldenberg, C. (2000). Longitudinal analysis of the antecedents of emergent Spanish literacy and middle-school English reading achievement of Spanish-speaking students. *American Educational Research Journal, 37*, 633–662.

Rodriguez-Brown, F. V. (1987). Questioning patterns and language proficiency in bilingual students. *NABE Journal, 13*, 217–233.

Rousseau, M. K., & Tam, B. K. Y. (1993). Increasing reading proficiency of language-minority students with speech and language impairments. *Education and Treatment of Children, 16*, 254–271.

Royer, J., & Carlo, M. (1991). Transfer of comprehension skills from native to second language. *Journal of Reading, 34*, 450–455.

Ruiz-de-Velasco, J., & Fix, M. (2000). *Overlooked & underserved: Immigrant students in U.S. secondary schools*. Washington, DC: The Urban Institute.

Rumberger, R. W., & Larson, K. A. (1998). Toward explaining differences in educational achievement among Mexican-American language-minority students. *Sociology of Education, 71*, 68–92.

Saldate, M., Mishra, S. P., & Medina, M. (1985). Bilingual instruction and academic achievement: A longitudinal study. *Journal of Instructional Psychology, 12*, 24–30.

Saunders, W., & Goldenberg, C. (1999). The effects of instructional conversations and literature logs on the story comprehension and thematic understanding of English proficient and limited English proficient students. *The Elementary School Journal*, *99*, 277–301.

Saville-Troike, M. (1984). What really matters in second language learning for academic achievement? *TESOL Quarterly, 18*, 199–219.

Shavelson, R. J., & Towne, L. (Eds.). (2001). *Scientific research in education*. Washington, DC: National Academy Press.

Snow, C. E., Cancino, H., Gonzalez, P., & Sriberg, E. (1987). *Second language learners' formal definitions: An oral language correlate of school literacy* (Tech. Rep. No. 5). Los Angeles: University of California, Center for Language Education and Research.

Stevens, R. A., Butler, F. A., & Castellon-Wellington, M. (2000). *Academic language and content assessment: Measuring the progress of English language learners (ELLs)* (CSE Tech. Rep. No. 552). Los Angeles: University of California, National Center for Research on Evaluation, Standards, and Student Testing.

Strong, M. (1983). Social styles and the second language acquisition of Spanish-speaking kindergartners. *TESOL Quarterly, 17*, 241–258.

Strong, M. (1984). Integrative motivation: Cause or result of successful second language acquisition? *Language Learning, 34,* 1–13.

Tharp, R. G., Estrada, P., Dalton, S. S., & Yamauchi, L. (2000). *Teaching transformed: Achieving excellence, fairness, inclusion and harmony.* Boulder, CO: Westview.

Thomas, W. P., & Collier, V. P. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement.* Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.

Tikunoff, W. (1985). *Applying significant bilingual instructional features in the classroom.* Rosslyn, VA: National Clearinghouse for Bilingual Education. (ERIC Document Reproduction Service No. ED338106)

Ulibarri, D. M., Spencer, M. L., & Rivas, G. A. (1981). Language proficiency and academic achievement: A study of language proficiency tests and their relationship to school ratings as predictors of academic achievement. *NABE Journal, 5*, 47–79.

Umbel, V. M., & Oller, D. K. (1994). Developmental changes in receptive vocabulary in Hispanic bilingual school children. *Language Learning, 44*, 221–242.

Weslander, D., & Stephany, G. V. (1983). Evaluation of an English as a second language program for southeast Asian students. *TESOL Quarterly, 17*, 473–480.

Zutell, J., & Allen, V. (1988). The English spelling strategies of Spanish-speaking bilingual children. *TESOL Quarterly, 22*, 333–340.