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How Teachers Allocate Time During Literacy Instruction in Primary-Grade English Language Learner Classrooms

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By the end of grade 3, national and state benchmarks share the expectation that children are able to 1) read grade-level literature independently with enjoyment and interest, 2) read grade-level information text with understanding for the purpose of learning, and 3) discuss and write about those texts in grade-appropriate ways. These benchmarks are echoed in many state standards and accountability tests and in the National Assessment of Educational Progress (NAEP). Yet, results from NAEP show that 37% of fourth graders read below the basic proficiency level for grade 4 and that among minority students this percentage is an alarming 63% for African American fourth graders and 58% for Hispanic fourth graders (National Center for Educational Statistics [NCES], 2001a). Although some have questioned the validity of the NAEP proficiency levels (Linn, Baker, & Betebenner, 2002), there is no question that there are real differences in achievement among ethnic groups.

The jump in Hispanic enrollment in the school-age population in the United States from 9.9% in 1986 to 16.3% in 2001 (NCES, 2001b) has resulted in increasing numbers of English language learners (ELLs) in classrooms. Educators and researchers need to better

The study reported in this chapter was supported by a grant from the National Institute of Child Health and Human Development (NICHD), Grant No. HD39521, "Oracy/Literacy Development in Spanish-Speaking Children."

understand the conditions under which ELLs become proficient in English literacy and the role of primary-language instruction in this process (Snow, Burns, & Griffin, 1998). In addressing this need, a central question to ask is, Within and across language models, what instructional strategies are used in Spanish and in English and how do they relate to student literacy development? A first step toward answering this question is to reliably measure the language and content of literacy instruction in bilingual classrooms. Accordingly, in this chapter we describe an observational system developed to capture teachers' strategies, student engagement, and teacher and student language during reading/language arts and English language development (ELD) instruction in primary grade classrooms with large numbers of ELLs.

BACKGROUND

Given the consensus for integrating phonics and meaning emphases in teaching English literacy evident in national and state benchmarks, what are the key research findings that can inform classroom practice and teacher preparation for ELLs learning English literacy? Two distinct areas need to be considered: 1) What should be the language of instruction for ELLs? and 2) What do we know about effective instructional practices for ELLs learning to read in English?

The Controversy Over Language of Instruction

Language has been the topic of greatest controversy in the education of ELLs, and by far the most volatile issue has been the use of ELLs' primary language for academic instruction: Should ELLs be taught English skills in English from the outset of their schooling, or should they be taught academic skills in their home language? And if they are to be taught in their home language, for how long? And if they are taught in English, how much native language support (e.g., explaining or clarifying concepts in the home language) is advisable? Primary-language advocates on one extreme say that the longer, more intensively, and more effectively students learn literacy and academic skills in their home language, the better their eventual academic attainment will be in English (Thomas & Collier, 1997). In diametric opposition, advocates of English instruction say that

early, sustained, and effective use of primarily English in the classroom leads to superior attainment in English (Rossell & Baker, 1996).

Studies point policy in opposite directions. Baker (1998) and Rossell and Baker (1996) concluded that evaluation studies and research support the efficacy of intensive English use to promote academic development among ELLs. Their analyses and conclusions challenge the central premise held by advocates of primary-language instruction, which is that teaching students academic skills and knowledge in their home language, then transferring those skills and knowledge to English (or some other second language), is more effective than teaching students in a language they do not understand. Two research syntheses, however, have concluded precisely the opposite: Use of students' primary language *does* produce superior achievement results in English, as compared with immersing students in English-only instruction (Greene, 1998; Willig, 1985). These syntheses thus support the central tenet of primary-language instruction and most versions of bilingual education as practiced in the United States.

But even if one were to accept the conclusions of Greene's (1998) and Willig's (1985) work, existing studies do not provide a basis for determining how much primary-language instruction is optimal. Studies claiming that the longer students are in an effective primary-language program, the better their achievement in English, have either been plagued by technical problems (e.g., Ramirez, 1992; see Meyer & Fienberg, 1992, for a full technical review) or have not published complete details of the research, thereby not permitting a full evaluation of findings (e.g., Thomas & Collier, 1997). A more recent report by Thomas and Collier (2002) presented a stronger empirical case for the benefits of increased time in primary-language instruction for ELLs. But this study reported achievement data analyzed by language model (e.g., English-only instruction, transitional bilingual education, two-way bilingual education). There are no data or analyses describing type of language use in the classroom and its relationship to student achievement.

We are left, therefore, with important gaps in our understanding of the proper role of children's primary language in their eventual attainment in English. It might be that these gaps cannot be filled in any fully generalizable way, that is, independent of the particulars of children's schools and communities. The language-of-instruction issue is certainly important, but it must be kept in perspective because it is only one of several issues educators face in teaching

ELLs (August & Hakuta, 1997; National Educational Research Policy and Priorities Board, 1999). Moreover, as Cummins pointed out, language of instruction "is not, in itself, a determinant of academic outcomes" (1999, p. 31). The nature of the instruction must be considered within the larger school and community context in which that instruction takes place.

Two-way, or dual-language, bilingual education represents an important and relatively new direction in the debate on language of instruction. Two-way programs make extensive use of ELLs' primary language, but these programs also have as their goal bilingualism, biliteracy, and high levels of academic achievement in two languages, both for ELLs and native English speakers. ELLs maintain their home language and develop English language skills, while English speakers learn a second language in addition to continuing to progress in English. Research on two-way programs in the United States is still relatively new.

Some studies suggest very positive results: ELLs in two-way programs develop high levels of English proficiency and maintain their first language at high levels; English speakers maintain high levels of English competence but also learn another language (Cazabon, Nicoladis, & Lambert, 1998; Christian, 1994; Howard & Christian, 1997; Lindholm, 1996; Thomas & Collier, 1997).

As with other types of bilingual education, there are several challenges to successful implementation of two-way programs—staffing (bilingual staff), demographics (roughly equal numbers of children from two different language backgrounds), and program development (language mix and how this changes over the grades; complex curriculum and instruction promoting high levels of achievement in two languages). Virtually nothing is known about the consequences of different configurations of staff, demographics, and program options on student outcomes (August & Hakuta, 1997). This is an area that is crucial to examine because two-way bilingual education might be a promising approach for promoting the achievement of ELLs and simultaneously promoting bilingualism and biliteracy—with all of the attendant economic, intellectual, and cultural advantages (August & Hakuta, 1997; Crawford, 1991; Peal & Lambert, 1962; Rossell & Baker, 1996).

Learning English Literacy

A review of extant research suggests the following points about the literacy development of ELLs. First, the experiences and skills that

children bring to school influence their literacy development (August & Hakuta, 1997; Snow et al., 1998). Children with more exposure to print, more knowledge of print and its functions, greater phonological awareness, and knowledge of letters and sounds are much more likely to do well in becoming literate and, indeed, in succeeding in all of their academic school tasks. The fact that students come to school with a huge range of experience, knowledge, and skill presents educators with formidable challenges. To the extent that a student's cultural and/or socioeconomic background influence experiences, knowledge, and skills that in turn influence literacy development, culture and socioeconomics play a role in literacy attainment. Adjusting classroom practice to reflect and be sensitive to students' cultural and socioeconomic backgrounds can promote high levels of student engagement. August and Hakuta (1997) cited studies that seem to show that schools and classrooms are more effective when they are responsive to community culture, values, and goals (see Tharp, 1982, and Wong-Fillmore, Ammon, McLaughlin, & Ammon, 1985). However, it is unclear to what extent accommodating to students' specific cultural or socioeconomic characteristics or experiences per se improves literacy attainment.

Second, direct, explicit instruction of basic (e.g., phonological) and more advanced (e.g., comprehension, analysis) language and literacy skills promote academic and language development of ELLs (Fitzgerald, 1995; Gersten, 1985, 1996). Systematic assessment of learning, opportunities for students to practice emerging skills, teaching strategies that enhance student understanding, and home and parent involvement are all associated with higher levels of achievement for ELLs (August & Hakuta, 1997; Goldenberg, 1998; Slavin & Madden, 1999).

Third, as important as is systematic instruction in essential literacy skills, ELLs also benefit from literacy learning experiences providing opportunities for reading and writing for pleasure, communication, and other personally meaningful purposes (August & Hakuta, 1997). For example, Elley and Mangubhai (1983) reported that "flooding" classrooms with high-interest illustrated storybooks in English improved the English reading and listening comprehension of 9- to 11-year old Fijian students learning English as a second language. Fitzgerald and Noblit (2000) provided numerous examples of communicative uses of print in a first-grade classroom with ELLs, although it is difficult to know what contribution the meaning-emphasis approach made to those children's early literacy development.

Fourth, literacy instruction for ELLs must at a minimum make accommodations for students' lack of proficiency in English. Advocates of primary-language programs advocate short- to long-term academically substantive programs in the students' primary language; advocates of English immersion advocate minimal use of the primary language and extensive use of English. Despite the radically different prescriptions derived from each position, both agree that instruction for ELLs must be structured and delivered in such a way as to be comprehensible and meaningful. Indeed, this is not just an educational nicety; it is a requirement of the amendments to the Elementary and Secondary Education Act, including the No Child Left Behind Act of 2001 (PL 107-110). In English immersion situations, making instruction comprehensible requires specialized techniques (e.g., "sheltered English," Echevarria & Graves, 1998) and at least some use of the primary language. Even strong proponents of English immersion acknowledge that use of the home language might be beneficial to learners faced with the formidable challenge of learning academic content and learning English simultaneously (Baker, 1998). It is unknown whether there are optimal levels of home language use in English immersion situations. Nor is it known the degree of comprehensibility that must be attained for students to benefit from academic instruction in a language they are still learning. Some students might require a higher degree of comprehensibility than others in order to benefit from academic instruction and other learning opportunities.

Fifth, the relationship between ELLs' oral English proficiency and literacy instruction in English is unclear. Should ELLs learn to read and write English as they learn to speak and understand it? Or should ELLs acquire certain levels of oral English proficiency before being expected to deal with English print? Some researchers argue that learning to read in English while learning to speak the language is possible, even desirable. Siegel (1999) reported that of the ELLs who entered kindergarten in Vancouver, British Columbia, with very little English familiarity, 90% were at the 50th–60th national percentile in reading 18 months later in first grade. (However, more than 50% of the ELLs Siegel studied participated in government-funded after-school and Saturday "heritage" language and culture classes; Siegel's findings thus also support the proposition that primary-language instruction leads to higher levels of learning in a second language.) Geva, Yaghoub-Zadeh, and Schuster (2000) also reported success in Toronto in teaching ELLs word-recognition skills, despite

the students' limited English. Some researchers argue that acquiring and using English literacy skills will actually help promote ELLs' English language development (Anderson & Roit, 1996; Elley & Mangubhai, 1983; Gersten, 1996). Others, however, contend that a certain threshold of oral English proficiency must be acquired before ELLs are taught English literacy skills (e.g., Snow et al., 1998; Wong-Fillmore & Valadez, 1986). The basic argument is that it is extremely difficult to learn to read in a language that is unfamiliar in its sounds and meanings. Therefore, ELLs should be at least minimally familiar with the target language (how familiar is unclear). Fitzgerald (1995), although sympathetic to the argument that learning to read a second language can proceed simultaneously with learning to speak it (Fitzgerald & Noblit, 2000), argued that the results of studies are too mixed and inconclusive to permit any empirically based judgment about the relationship between learning to speak and understand a language and learning to read and write it.

One way to reconcile the different positions is to treat reading as a developmental process. That is, reading is different things at different stages. In the beginning stages, reading is more dependent on phonological processing (hearing the sounds in words) and being able to associate printed letters and groups of these letters with particular sounds; in later stages, vocabulary and concept knowledge in the target language become more important for proficient reading (Chall, 1983). Particularly significant for ELLs is that the relationship between reading and language changes as students progress from stage to stage. Beginning reading places greatest emphasis on phonological processes (e.g., hearing sounds in words, associating sounds and symbols, sequential blending of sounds represented by letters) that are largely meaning-free. This is likely to be relatively easy for ELLs, who can probably begin learning to read even with minimal knowledge of English. (Note, however, that these students must still learn to hear and discriminate sounds that are specific to the language in which they are learning to read; Geva, 2000.)

Later reading stages, however, rely more on extensive vocabulary and syntactic knowledge of the language, which take longer to develop than phonological skills. Indeed, at higher grades the correlations between reading proficiency and oral language proficiency among ELLs increase, suggesting that reading and oral language proficiency become more closely related as students advance in their reading development (Fitzgerald & Noblit, 2000). At these stages, lack of vocabulary and incomplete structural knowledge of English

make continued literacy progress a greater challenge than it is in the early stages of reading. The lag between the acquisition of basic reading skills (phonological and decoding skills) and the acquisition of language required for success at more advanced stages of reading present a formidable challenge for ELLs and their teachers. As August and Hakuta noted, "A major obstacle to helpful research on reading instruction for language minority children is the failure to recognize the existence of developmental changes in the reading process and in the speed and efficiency of second-language learning" (1997, p. 62). Moreover, success in later stages of reading requires greater speed and efficiency of mental processes involved in reading. Although ELLs reading in English demonstrate similar mental processes as fluent English speakers, ELLs differ from English speakers in the extent, sophistication, and speed with which they use metacognitive strategies required for successful reading (Fitzgerald, 1995). For example, some ELLs summarize as they read and make predictions, but they do so more slowly and less effectively than English speakers.

Sixth, reading instruction and assessment must therefore be accompanied by instruction and assessment specifically designed to promote ELD in the areas of vocabulary, syntax, morphology, and discourse. Phonological and decoding skills, even rote reading, might be relatively independent of vocabulary and syntactic knowledge. Reading *comprehension* clearly is not. Successful literacy instruction for ELLs must contain large amounts of language development and support for understanding English. Vocabulary, syntax, and discourse in English must be stressed. The addition of an English as a second language (ESL) component for ELLs as part of Success for All (Slavin & Madden, 1999), a successful early reading program for Title I schools (Borman, Hewes, Overman, & Brown, 2002), suggests that a program that is effective for English speakers is not by itself sufficient for ELLs. Accommodations must be made due to ELLs' limited language proficiency, but there are many ways of accomplishing this.

Seventh, ELLs need instruction/assistance in gaining access to what they know in their first language and applying it to reading in English. Perhaps as a function of limited English vocabulary or other aspects of the English language they are in the process of acquiring, ELLs can have difficulty gaining access to background knowledge or even using skills they have mastered in their primary language (Jiménez, 1997). Gersten (1996) has proposed "structures, frameworks, scaffolds, and strategies" such as visual organizers and story

maps to help students facilitate this transfer and organize information. He proposed that teachers use various mediation/feedback functions that are comprehensible, provide assignments students can complete, and focus on meaning rather than grammar or syntax. He also encouraged the use of native language responses. With the exception of the last item, the other functions can be seen as more or less generic "recommended practices" in teaching. For ELLs, however, consistent and conscious use of these practices is important to help them develop the skills essential for continued literacy development.

In summary, although there are many areas of uncertainty and disagreement, existing research suggests several literacy practices for ELLs, among them,

1. Make connections with students' culture, background, and experiences, which can promote high levels of student engagement.
2. Use direct, explicit instruction of basic and advanced skills.
3. Provide opportunities for reading and writing for pleasure, communication, and personally meaningful purposes.
4. When ELLs receive instruction in English, make accommodations for students' lack of proficiency in English.
5. In whichever language students are learning to read, emphasize phonological aspects of reading and mapping speech to print during the early stages of literacy development. Later stages rely more on vocabulary and syntactic knowledge of the language, which takes longer to develop than phonological skills.
6. Actively promote language development and support for English.
7. Help students gain access to and apply home language knowledge to reading English.

RESEARCH ON BILINGUAL AND BILITERACY DEVELOPMENT IN PRIMARY-GRADE CLASSROOMS

We are currently engaged in a multiyear, multisite investigation called "Oracy/Literacy Development in Spanish-Speaking Children," funded by the National Institute of Child Health and Human Development and the Institute of Education Sciences. This research project involves approximately 1,400 children in kindergarten

through grade 2 in schools in two urban sites in Texas, one site in Border Texas, and one site in urban California. Schools were selected based on 1) their average or better achievement levels (based on accountability data in Texas and in California; in California, schools could enter the study based on high achievement either in English or in Spanish) and 2) their model of reading/language arts instruction (i.e., primary language, two-way or dual language, English immersion). In Year 1 we piloted procedures and forms with 14 participating Title I schools, with 105 participating K–2 classrooms and 848 students. The student sample consisted of 445 girls and 403 boys and was largely Hispanic: 808 Hispanics, 24 African Americans, 2 Asians, 3 Caucasians, and 11 students whose ethnicity data were missing. Individual projects in this program project concern the nature of classroom instruction, development of students' language- and literacy-related skills, and the home and community contexts in which the students live. Additional projects focus on measurement issues and, for a subset of students, changes in brain activation patterns with development of language and literacy skills.

Our project concerns the nature of classroom instruction. We document teachers' instructional practices by making extensive classroom observations during reading/language arts. We note teaching competencies, strategies, quality and quantity of content, student engagement, the presence of instructional aides, and the percentage of time devoted to Spanish and English usage by teachers and students. We also record whether instructional materials are printed or are on the computer and whether they are in English or in Spanish.

Descriptive studies have repeatedly indicated that typical reading instruction provides insufficient engaged reading opportunities to facilitate reading growth for many students (Gelzheizer & Meyers, 1991; O'Sullivan, Ysseldyke, Christensen, & Thurlow, 1990; Simmons, Fuchs, Fuchs, Mathes, & Hodges, 1995; Vaughn, Hughes, Schumm, & Klingner, 1998). For example, students spend approximately two thirds of their reading periods independent of the teacher and engaged in nonreading or indirect reading activities (Allington & McGill-Franzen, 1989; Simmons et al., 1995) and when students are being instructed directly by the teacher, they spend about 70% of their time passively watching and listening to the teacher or other students, with little or no opportunity to actually read (O'Sullivan et al., 1990; Simmons et al., 1995). Furthermore, it appears that students most at risk for school failure actually receive fewer engaged reading opportunities than their higher performing peers (O'Sullivan et al., 1990). Arreaga-Mayer and Perdomo-Rivera (1996) observed 24

students categorized as limited English proficient (LEP) in grades 3–5 in 14 classrooms in three schools for the entire school day six times over the course of a school year. The observations revealed that the most frequently coded student behaviors in both general education and ESL classrooms were no talk (96% in general education, 92% in ESL classrooms) and use of no language, oral or written (82% general, 79% ESL). Academic talk (2% general, 6% ESL) and using the English language in oral and written communication occurred infrequently (18% general, 9% ESL). The percentage of the day spent in oral engagement was 4% in general education classrooms and 9% in ESL classrooms. These results suggest few linguistic opportunities for LEP students during the school day. The low percentages of oral engagement in ESL classrooms are particularly disturbing because those classrooms are specifically designed to build English language skills.

Measuring the Language and Content of Literacy Instruction

Measuring the quantity and quality of time allotment during the reading/language arts block is critically important to understanding teaching effectiveness (Allington, 1991). Accordingly, we modified a procedure used by Scanlon and Vellutino (1996) to quantify time spent on various reading/language art behaviors and use it in primary-grade classrooms in high-poverty schools in which 95% of the students were African American (Foorman & Schatschneider, 2003). According to our modified system, observers code the instructional format and content of teaching in designated intervals within each minute. Four categories of instructional format are noted, ranging from whole class or large group, to small groups, to all students working on their own with or without the teacher monitoring. There are five subject codes—reading/language arts, ELD, social studies, science, and math—and a code for transition between subjects. ELD is often called English as a second language (ESL) and focuses on language instruction for ELLs. Within the intervals devoted to recording the subject code, both a primary and a secondary subject can be recorded. For example, when reading/language arts and ELD are integrated, both codes might appear within the observational interval. Likewise, when science instruction occurs during the ELD period, both codes can be used within the observational interval. In addition, one observation per year can be conducted in social studies, science, and math to document the extent of literacy instruction.

Finally, there are 20 content codes: oral language (including listening comprehension and instruction in the structure of English and Spanish); book and print awareness; discussion of predictable text; phonemic awareness; alphabet letter recognition and reproduction; alphabetic instruction; structural analysis; word work; vocabulary; previewing a text before reading; spelling in the context of reading; reading text (teacher reads aloud, students read aloud, students read silently); students reading their own writing; reading comprehension (during or after reading); spelling instruction; writing composition; grammar or mechanics; giving directions, passing out materials, or referring to teacher's guide; nonreading activities; and feedback (e.g., corrective feedback, praise, punitive feedback). Behaviors that do not fit into any one of these 20 content areas are marked uncodable. A more detailed description of these categories is available in the appendix to this chapter. Good interrater reliability has been achieved on this coding system in English language classrooms (i.e., > .80; Foorman & Schatschneider, 2003).

Because we are also interested in the language of instruction in bilingual classrooms, we code the language used by the teacher during each minute and the language used by the students every other minute. We adjust for the fact that teachers' language is observed twice as frequently as students' language by analyzing data as a percentage of observed time. The coding reflects Spanish only, English only, a mix of Spanish and English, or missed. "Missed" means that there was no opportunity to observe teacher or student language due to the lack of language use or the observer's inability to hear well enough to make a decision. Observers also rate student engagement by recording whether each of four students randomly selected from the class roster were engaged in on-task or off-task behaviors. Finally, within the minute, observers also note whether an instructional aide is present or absent, whether instructional materials are in print format or on the computer, and the language of the instructional materials.

In order to make precise, within-the-minute recordings, observers wear headsets attached to audiotape players that indicate when to observe and when to record. The intervals for observing and recording within odd and even minutes are described in Table 13.1. Every 20 minutes observers take a 2-minute break. Observers are trained initially in a 2-day session at the beginning of the school year using videotapes of bilingual primary-grade classrooms. Interrater reliabilities are compared and serve as the basis of focused discussions of

Table 13.1. Time-sampling system

Odd minutes	
First 15 seconds	Observe all (instructional format, content, subject, materials, aide).
Next 5 seconds	Record observation.
Next 10 seconds	Observe teacher language.
Next 5 seconds	Record teacher language.
Next 10 seconds	Observe student engagement.
Next 5 seconds	Record student engagement.
Next 5 seconds	Record instructional aide.
Next 5 seconds	Wait for next minute; no observation or recording.
Even minutes	
First 15 seconds	Observe all (instructional format, content, subject, materials, aide).
Next 5 seconds	Record observation.
Next 20 seconds	Observe teacher and student language.
Next 5 seconds	Record teacher and student language.
Next 5 seconds	Record instructional aide.
Next 10 seconds	Wait for next minute; no observation or recording.

subtle differences between content codes in various contexts. Then observers practice in actual classrooms, comparing interrater reliabilities and working to achieve agreement of at least 80%. Once data collection begins, the coordinator and observer observe the same classroom for 10% of observations. To avoid drift, observers are retrained at mid-year by the coordinator. Based on this procedure, we have obtained adequate average interrater reliabilities during our first year of data collection. Interrater reliabilities were computed as the absolute percent agreement across the 5-second recording periods that follow each of the 10- to 20-second observation intervals within the minute (see Table 13.1). Interrater reliabilities are presented in Table 13.2 for all four sites across the three waves of data collection. Mean interrater reliabilities are high (80% or higher), with one of the urban Texas sites being the lowest. Minimum interrater reliabilities reflect individual observer variation, which was addressed by mid-year retraining.

Preliminary Description of the Language and Content of Instruction

The classrooms participating in this research study were selected as representative of one of three types of models of reading/language arts instruction for ELLs. Model 1 represents instruction in the primary language (in this case, Spanish) in classes with predominantly

Table 13.2. Mean, minimum, and maximum reliabilities on timed observation codes for four sites across three waves of data collection

	Sites											
	Urban Texas 1			Border Texas			Urban Texas 2			Urban California		
	M	Min	Max	*M*	Min	Max	*M*	Min	Max	*M*	Min	Max
Instructional format	98.0	93.3	100.0	97.6	94.3	99.5	87.3	58.6	100.0	93.3	43.8	100.0
Content code	97.3	94.3	99.0	97.2	94.8	99.5	80.2	51.0	97.1	86.4	37.6	100.0
Primary subject	99.5	98.1	100.0	99.0	96.7	100.0	89.8	52.4	100.0	99.3	96.7	100.0
Secondary subject	99.4	98.1	100.0	100.0	100.0	100.0	98.6	92.4	100.0	97.1	75.2	100.0
Print/ computer	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.0	100.0	100.0	100.0	100.0
Material language	97.9	94.8	100.0	98.2	93.8	100.0	91.7	53.8	100.0	96.9	86.2	100.0
Teacher language	95.3	87.6	100.0	93.3	87.1	100.0	85.6	54.3	99.0	98.3	93.3	100.0
Student engagement	99.0	97.6	100.0	99.5	98.1	100.0	97.1	91.0	100.0	99.0	93.8	100.0
Student language	97.2	94.8	98.6	97.7	95.7	100.0	92.5	78.1	99.0	99.0	97.6	100.0
Instructional aide	99.6	99.0	100.0	99.0	97.1	100.0	95.7	81.4	100.0	95.3	71.4	100.0

Spanish speakers. Within Model 1 there are schools that exit students into English instruction early (e.g., first or second grade) or later (e.g., third grade or later). These late-exit programs used to be referred to as "maintenance" programs but since 1984 have been referred to within Title VII of the amendments to the Elementary and Secondary Education Act as "developmental bilingual education" to emphasize the "importance of supporting the long-term linguistic, academic, and cognitive development of English language learners" (Ramirez, 1992, pp. 19–20). Model 2 depicts reading/language arts instruction in primary language and in English in classes that are ideally balanced in proportions of native English speakers and native Spanish speakers. This model is often called two-way immersion or dual language. Model 3 represents reading/language arts instruction in English and is often called immersion.

During Year 1 of the project, observers from the four sites observed each classroom three times during the school year—in the fall (October–November), winter (February), and spring (April–May). They observed during the reading/language arts period and during the ELD period, if there was one. As can be seen in Table 13.3, 67 of the 105 participating classrooms present reading/language arts and ELD as separate instructional periods, whereas 38 integrate these periods into a single reading/language arts class. There are differences between sites with regard to these formats. For example, in the second urban Texas site and in urban California, primary-language classrooms (Model 1) use the separate-class format, whereas in the first urban Texas site and the Border Texas site, Model 1 classrooms use either the separate or the integrated formats. The format for the immersion classrooms of Model 3 also varies by site: The second urban Texas site uses the integrated format, whereas the urban California site has both integrated and separate reading/language arts and ELD classes. However, dual-language classrooms at both of these sites tend to use the separate format more than the integrated format.

Across sites, language models, and grades, the mean number of minutes per day in the reading/language arts period was 105.96 minutes (SD = 32.50) and in the ELD period the mean was 58.49 minutes (SD = 40.85). Because of the relatively large variability in instructional time, we looked at the percentages of time spent in teacher and student language and the percentage of time allocated to various instructional content areas.

Language Usage The percentages of time during the reading/language arts period and (given parenthetically) the ELD period that

Table 13.3. Number of reading/language arts classrooms with or without additional English language development (ELD) classrooms by site, language model, and grade

Site	Language model	Grade	Reading/ language arts and ELD	Reading/ language arts	Total teachers
Urban Texas 1	Model 1	K	4	1	5
		1	4	2	6
		2	6	2	8
Border Texas	Model 1	K	4	4	8
		1	4	4	8
		2	2	6	8
Urban Texas 2	Model 1	K	5	0	5
		1	4	0	4
		2	4	0	4
	Model 2	K	4	0	4
		1	4	3	7
		2	2	1	3
	Model 3	K	0	2	2
		1	0	2	2
		2	0	2	2
Urban California	Model 1	K	2	0	2
		1	2	0	2
		2	2	0	2
	Model 2	K	2	0	2
		1	3	0	3
		2	2	2	4
	Model 3	K	3	1	4
		1	3	2	5
		2	1	4	5
TOTAL CLASSES			67	38	105

teachers speak in Spanish, in English, in a mix of both languages, or no language (i.e., missed) are presented in Table 13.4 by site, language model, and grade. Generally, these data fit with the language model. Instruction in Model 3's immersion classrooms is almost completely in English in grades K–2, both in reading/language arts and in ELD. Reading/language arts instruction in Model 2's dual-language classrooms is primarily in Spanish, with ELD instruction occurring almost exclusively in English from kindergarten. Instruction in Model 1's primary-language classrooms is mainly in Spanish in kindergarten, but the percentage of English instruction increases

Table 13.4. Percentage of time teachers spent with language use categorized as Spanish (SP), English (E), mixed (MIX), or missing (M) in reading/language arts and (parenthetically) English language development (ELD) by site, language model, and grade

Language model and grade	Sites															
	Urban Texas 1				Border Texas				Urban Texas 2[a]				Urban California			
	SP	E	MIX	M	SP	E	MIX	M	SP	E	MIX	M	SP	E	MIX	M
Model 1																
K	68 (25)	8 (42)	17 (20)	7 (13)	53 (8)	26 (53)	15 (34)	6 (4)	71 (24)	25 (45)	1 (22)	3 (9)	69 (0)	14 (98)	12 (2)	5 (0)
Grade 1	63 (19)	5 (42)	27 (27)	5 (12)	42 (4)	44 (78)	9 (11)	5 (7)	60 (26)	20 (30)	12 (27)	8 (17)	70 (0)	29 (94)	1 (1)	0 (5)
Grade 2	32 (5)	36 (78)	16 (5)	16 (13)	9 (1)	72 (88)	13 (8)	6 (4)	55 (12)	34 (63)	8 (17)	3 (9)	66 (0)	31 (98)	2 (1)	1 (1)
Model 2																
K									88 (0)	8 (84)	1 (5)	3 (6)	98 (1)	2 (97)	0 (2)	0 (0)
Grade 1									78 (0)	8 (90)	3 (3)	11 (7)	91 (0)	9 (99)	0 (0)	0 (1)
Grade 2									76 (0)	16 (97)	1 (1)	7 (3)	56 (0)	38 (99)	5 (1)	1 (0)
Model 3																
K									1	81	11	7	0 (0)	96 (97)	3 (3)	1 (0)
Grade 1									2	85	9	4	0 (0)	98 (98)	0 (0)	2 (2)
Grade 2									9	71	13	7	0 (0)	96 (93)	0 (7)	3 (0)

[a]In the second urban Texas site, there was no separate ELD class for students in the immersion program.

by grade 2, and this generally holds for both reading/language arts and ELD.

There are numerous site differences in teacher language across different language models. Model 3's immersion classrooms in urban California use all English from kindergarten through grade 2. In contrast, immersion classrooms in urban Texas use some proportion of Spanish and mixed language (i.e., 11%–21% combined across classrooms in urban Texas), and this is evident through grade 2. Likewise, urban Texas and urban California contrast somewhat in language usage in Model 2's dual-language classrooms: Both sites build English through the ELD period. However, they differ somewhat in language usage during the reading/language arts period: In urban California, instruction is almost exclusively in Spanish in kindergarten and grade 1 and then more balanced in Spanish and English in grade 2. In urban Texas, instruction remains predominantly in Spanish across the three grades.

Finally, site differences in Model 1's primary-language emphasis are consistent with an early exit model in Border Texas and a later exit model in the second urban Texas site. In Border Texas, Spanish instruction during reading/language arts drops from 53% in kindergarten to 9% in grade 2, whereas English instruction during ELD increases from 53% to 88%. This contrasts with drops from 71% to 55% in Spanish instruction during reading/language arts instruction in the second urban Texas site and corresponding increases in English during ELD from 45% to 63%. Urban California looks like a later exit or developmental bilingual education program in terms of the predominance of Spanish during reading/language instruction. The first urban Texas site seems to fall between the early exit strategy apparent in Border Texas and the later exit approach of the second urban Texas site. Spanish instruction in the first site drops from 68% in kindergarten to 32% in grade 2, with English usage during ELD rising from 42% to 78%. However, teachers use a mix of Spanish and English for instruction during both reading/language arts and ELD (5%–27%).

The corresponding description of student language is presented in Table 13.5. Percentages of student language categorized as Spanish, English, mixed, or missed are given for the reading/language arts block and, parenthetically, for the ELD block. In the second urban Texas site, there is no separate ELD class for students in Model 3's immersion classrooms. Student language during the reading/language arts block generally supports the language models, as does

Table 13.5. Percentage of time students spent with language use categorized as Spanish (SP), English (E), mixed (MIX), or missing (M) in reading/language arts and (parenthetically) English language development (ELD) by site, language model, and grade

Language model and grade	Sites															
	Urban Texas 1				Border Texas				Urban Texas 2[a]				Urban California			
	SP	E	MIX	M	SP	E	MIX	M	SP	E	MIX	M	SP	E	MIX	M
Model 1																
K	71 (44)	2 (21)	5 (11)	22 (24)	39 (17)	10 (10)	47 (70)	4 (2)	82 (39)	4 (27)	3 (18)	11 (16)	83 (0)	11 (89)	4 (7)	2 (4)
Grade 1	89 (54)	3 (7)	7 (32)	1 (7)	38 (4)	31 (55)	26 (37)	5 (4)	56 (32)	17 (14)	11 (31)	15 (22)	71 (0)	28 (84)	0 (16)	1 (0)
Grade 2	43 (17)	25 (62)	14 (13)	18 (8)	8 (2)	50 (71)	33 (24)	9 (3)	54 (33)	22 (38)	12 (16)	12 (13)	78 (0)	21 (87)	0 (13)	1 (0)
Model 2																
K									81 (10)	0 (54)	10 (23)	8 (13)	97 (0)	1 (90)	2 (10)	0 (0)
Grade 1									77 (0)	0 (61)	11 (26)	12 (13)	99 (0)	1 (98)	0 (0)	0 (2)
Grade 2									85 (0)	2 (51)	5 (31)	8 (18)	72 (0)	24 (94)	4 (0)	0 (6)
Model 3																
K									5	56	14	25	0 (0)	99 (97)	1 (3)	0 (0)
Grade 1									4	63	28	5	0 (0)	97 (100)	0 (0)	3 (0)
Grade 2									2	67	12	18	0 (0)	91 (87)	1 (13)	8 (0)

[a]In the second urban Texas site, there was no separate ELD class for students in the immersion program.

the teacher language. That is, in immersion classrooms, students primarily speak in English, whereas in Model 1's early and later exit classrooms and Model 2's dual-language classrooms, students primarily speak Spanish. However, in Model 1 classrooms in Border Texas, it is the mixing of Spanish and English that stands out: 26%–47% coded as mixed in reading/language arts classes and 24%–70% in ELD classes. There are further site differences in Model 1 classrooms during ELD: A relatively large percentage of Spanish is used in the second urban Texas site in all three grades and in the Border Texas site in kindergarten and grade 1 compared with low percentages of Spanish in Border Texas after grade 1 and in urban California. English is mainly used in Model 2's dual-language classrooms during ELD, but urban California's percentages are much larger than Model 3 sites: 90%–98% versus 51%–61%. Thus, when the mixing of languages is taken into account in Border Texas, one sees a distinctive difference in the ratio of Spanish to English between the Texas sites and the California site: Students in the three Texas sites use more Spanish than do students in the California site, during both reading/language arts and ELD classes.

Instructional Content Allocation of time to instructional content was first examined by looking at frequencies of all 20 content codes described previously. To facilitate comparisons across sites, language models, and grades, the following superordinate categories were created. Few data were designated as uncodable (i.e., < 5%) or in the feedback category (i.e., medians of 0% and 3% for ELD and reading/language arts, respectively).

- Word Work—book and print awareness/conventions, alphabet letter recognition and reproduction, phonemic awareness, alphabetic instruction, structural analysis, and word work with or without text
- Oral Language—oral language/discussion, English language strategies, Spanish language strategies, and vocabulary
- Writing/Spelling—writing composition (e.g., student composition, student dictation, teacher-led writing), spelling in the context of reading (often from a speller), grammar, and students reading their own writing

- Reading Texts—teacher reading aloud, students reading aloud, students reading silently, and students singing or chanting in connection to text
- Reading Comprehension—discussions of predictable text, previewing to prepare for reading, and reading comprehension strategies for addressing literal and inferential questions and for responding with written summaries
- Nonreading Activities—chaos or other activities unrelated to reading instruction (e.g., transitions/off-task, teacher out of class, teacher checking papers or doing clerical work, discipline, interruptions due to visitors or intercom announcements)
- Direction Giving—activities related to instruction (e.g., passing out materials, referring to the teacher's guide)

The percentage of time allocated to each superordinate category was computed both for the ELD period and for the reading/language period across all three observation points. Percentages for ELD are given in Table 13.6 by site, language model, and grade. There are four notable points about the data in Table 13.6. First, irrespective of language model, teachers in urban California allocate much higher percentages of time to Oral Language instruction in each grade (ranging from 30% to 87%) than do teachers in the three Texas sites (ranging from 7% to 27%).

Second, teachers in the Texas sites tend to allocate more time to Word Work, Reading Texts, and Reading Comprehension than do teachers in the urban California site, except for kindergarten teachers in Model 3's immersion classrooms in California, who spend 37% of instructional time on Word Work. The nature of the reading activities varies within these Texas sites, with teachers in Border Texas devoting more time to Word Work and teachers in the urban sites devoting more time to working with text. The text-work varies within these two urban Texas sites, with teachers in the first site Reading Texts to or with the students, and teachers in the second site emphasizing Reading Comprehension. Urban California teachers also spent time Reading Texts to or with their students during ELD, and only one grade-level in one language model (grade 1 in

Table 13.6. Percentage of time allocated to instructional categories during English language development (ELD) class by site, language model, and grade

Site	Language model	Grade	Percentage of time during ELD						
			Word Work	Oral Language	Writing/ Spelling	Reading Texts	Reading Comprehen-sion	Non-reading	Giving Directions
Urban Texas 1	Model 1	K	22	21	14	17	9	12	5
		1	4	17	14	34	3	11	18
		2	20	9	18	14	15	13	11
Border Texas	Model 1	K	52	27	0	0	0	2	19
		1	31	15	24	8	9	2	12
		2	24	9	25	20	7	3	11
Urban Texas 2	Model 1	K	14	23	0	19	23	9	13
		1	24	9	10	26	10	6	14
		2	14	7	3	19	32	11	15
	Model 2	K	8	28	0	12	33	12	9
		1	5	17	0	12	43	12	11
		2	0	10	10	24	31	4	21
Urban California	Model 1	K	0	70	0	4	0	7	19
		1	1	36	0	30	12	10	11
		2	0	65	0	27	0	2	7
	Model 2	K	0	81	0	9	0	5	5
		1	0	49	0	15	28	4	5
		2	0	65	0	32	0	0	3
	Model 3	K	37	35	0	7	0	3	18
		1	10	30	10	25	8	11	7
		2	0	87	0	0	0	13	0

Note: There was no ELD block for immersion classes in the second urban Texas site.

Table 13.7. Percentage of time allocated to instructional categories during reading/language arts class by site, language model, and grade

Site	Language model	Grade	Percentage of time during reading/language arts						
			Word Work	Oral Language	Writing/ Spelling	Reading Texts	Reading Comprehen-sion	Non-reading	Giving Directions
Urban Texas 1	Model 1	K	35	14	11	16	4	6	15
		1	23	7	14	18	10	7	21
		2	17	9	18	19	18	7	12
Border Texas	Model 1	K	37	15	10	9	9	2	15
		1	28	13	18	14	9	3	16
		2	16	11	26	18	16	2	11
Urban Texas 2	Model 1	K	24	20	11	12	4	13	16
		1	16	11	9	23	13	8	19
		2	8	15	24	17	18	3	14
	Model 2	K	24	16	9	10	18	10	13
		1	11	12	15	15	21	10	14
		2	4	18	17	26	17	3	15
	Model 3	K	40	10	8	8	9	11	14
		1	24	3	18	24	9	4	17
		2	20	15	12	19	17	6	12
Urban California	Model 1	K	27	28	12	12	1	3	12
		1	9	9	36	20	6	6	14
		2	13	19	23	22	9	3	10
	Model 2	K	13	43	15	5	0	6	18
		1	10	19	9	22	13	13	11
		2	13	13	21	19	21	4	10
	Model 3	K	28	22	12	15	8	4	12
		1	22	13	20	24	8	3	10
		2	15	16	26	21	8	6	8

Model 2's dual-language classrooms) has a notable amount of time devoted to Reading Comprehension (28%).

Third, sites differ in the percentage of time allocated to Writing/Spelling. First- and second-grade teachers in Border Texas devote one quarter of ELD time to Writing/Spelling. Teachers in the first urban Texas site allocate 14%–18% of their time to Writing/Spelling, but teachers in the other two Texas sites allocate 0%–10% of time to this category.

Fourth, classrooms in all sites are characterized by relatively low amounts of Nonreading Activities (< 13%), with Border Texas being the lowest (< 4%). Percentage of time Giving Directions varies by grade within site.

The percentages of time allocated to instructional categories during the reading/language arts period are presented in Table 13.7. First, we discuss Model 2's dual-language classrooms and Model 3's immersion classrooms in the second urban Texas site and in the urban California site. Remember, in Model 2's dual-language kindergartens, instruction is almost entirely in Spanish in kindergarten and grade 1 in these two sites. However, the percentages of time spent on Word Work, Oral Language development, Writing/Spelling, and Reading Comprehension differ between sites. Teachers in the second urban Texas site spend 24% of time on Word Work, 10% of time Reading Texts, and 18% of time on Reading Comprehension activities. In contrast, kindergarten teachers in urban California spend 43% of time on Oral Language activities, 13% on Word Work, and 5% on Reading Texts. In grades 1 and 2, the two sites look more similar.

Model 3's immersion classrooms in the second urban Texas site and the California site differ subtly in profiles of time allocation depicted at the bottom of Table 13.7. In the urban Texas site, more time is spent on Word Work (40% versus 28% in kindergarten) and Reading Comprehension (17% versus 8% in grade 2). In the urban California site, more time is spent in Oral Language and Writing/Spelling activities in all three grades.

Model 1's primary-language classrooms exist in all four sites. To compare time allocations, it is helpful to refer to within-grade graphs. Kindergarten graphs are presented in Figure 13.1. Profiles of time allocation in kindergarten are similar for the sites in the top of the graph and for those in the bottom of the graph. An emphasis on Word Work dominates reading/language arts instruction in the urban Texas site and Border Texas (35% and 37%, respectively),

although the emphasis on Reading Texts relative to working on Reading Comprehension is not apparent in Border Texas as it is in all other sites. Remember that Spanish is the primary language of instruction in kindergarten at these sites. Teachers in Border Texas, however, instruct in English 26% of the time, making their classrooms more representative of an early exit program. Kindergarten classrooms in urban California engage in more Oral Language Activities than in the other sites (28%), and kindergarten teachers in the second urban Texas site spend more time in Nonreading Activities (13%).

Time allocation in first-grade primary-language classrooms is depicted in Figure 13.2. Again, the similarities in sites in the top row and in the sites in the bottom row are notable. In the first urban Texas site and the Border Texas site, there are still significant proportions of time devoted to Word Work (23% and 28%, respectively) and increases from kindergarten in proportions of time devoted to Writing/Spelling and Reading Texts and, in urban Texas, increases in Reading Comprehension. In the bottom of Figure 13.2, the large amount of time devoted to Writing/Spelling in urban California is notable (36%). We note the decrease from kindergarten in time allocated to Word Work (15% and 9%, respectively) and note increases in Reading Texts and Reading Comprehension in both sites. All sites devote significant proportions of time to Giving Directions (14%–21%). With respect to instructional language, Spanish is used the majority of time in the first-grade classrooms in all sites but Border Texas. In that site, the ratio of Spanish to English is 42% to 44%. In the first urban Texas site, there is a relatively large degree of mixing of languages (27%).

Time allocation profiles in grade 2 primary-language classrooms are provided in Figure 13.3. Again, there are similarities in profiles between the sites in the top row and between the sites in the bottom row. In the first urban Texas site and the Border Texas site, relatively large proportions of time are devoted to Word Work, Writing/Spelling, Reading Texts, and working on Reading Comprehension and less time to Oral Language activities. In contrast, profiles for the second urban Texas site and the urban California site show more time allocation to Oral Language and less to Word Work. In addition, Texas sites differ from the California site in that the time allotted to Reading Texts versus the time given for Reading Comprehension is relatively balanced in the Texas sites compared with the California site, where more than twice as much time is spent on Reading Texts

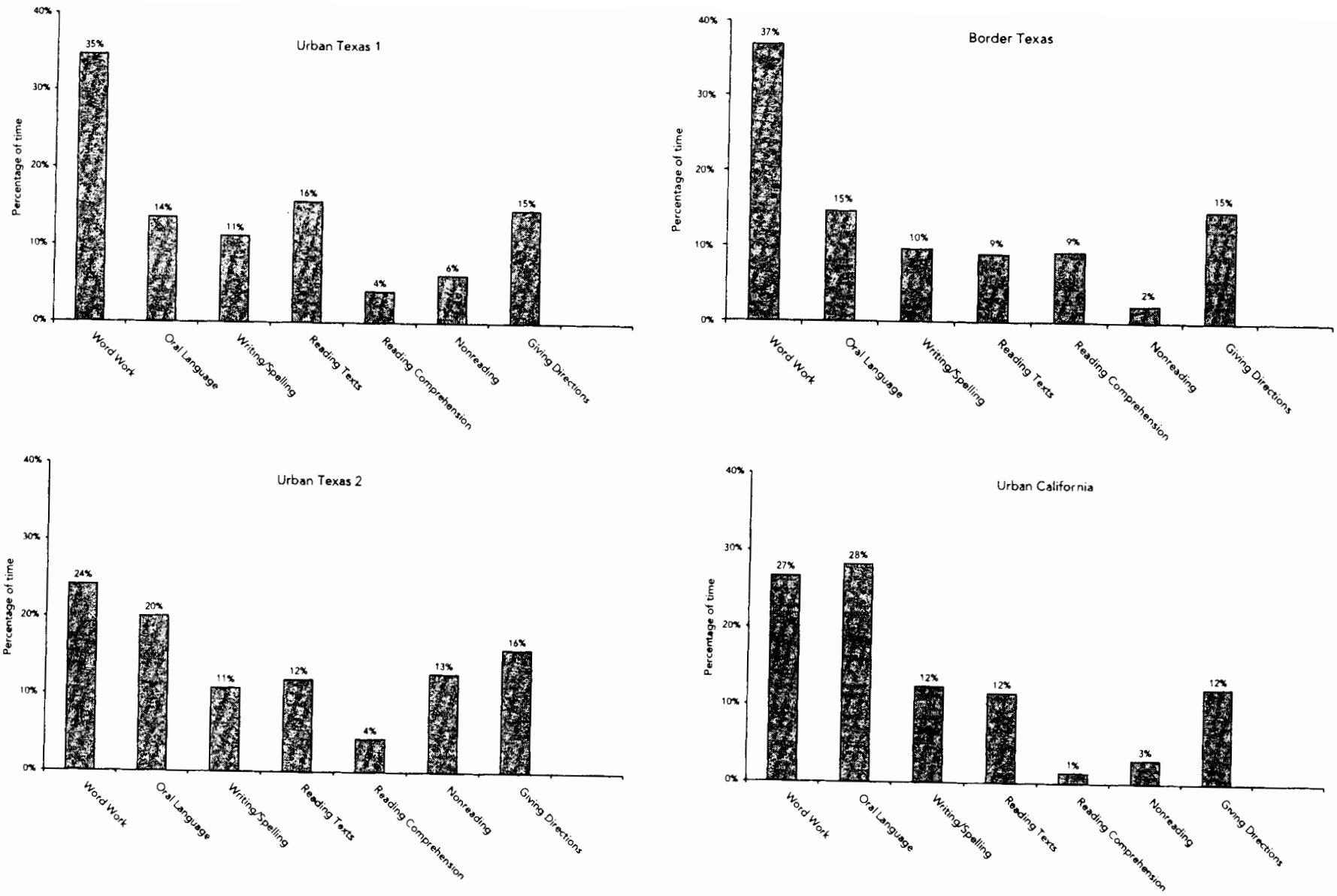

Figure 13.1 Percentage of time allocated to reading/language arts activities in kindergarten primary-language classrooms in four sites in urban Texas, Border Texas, and urban California.

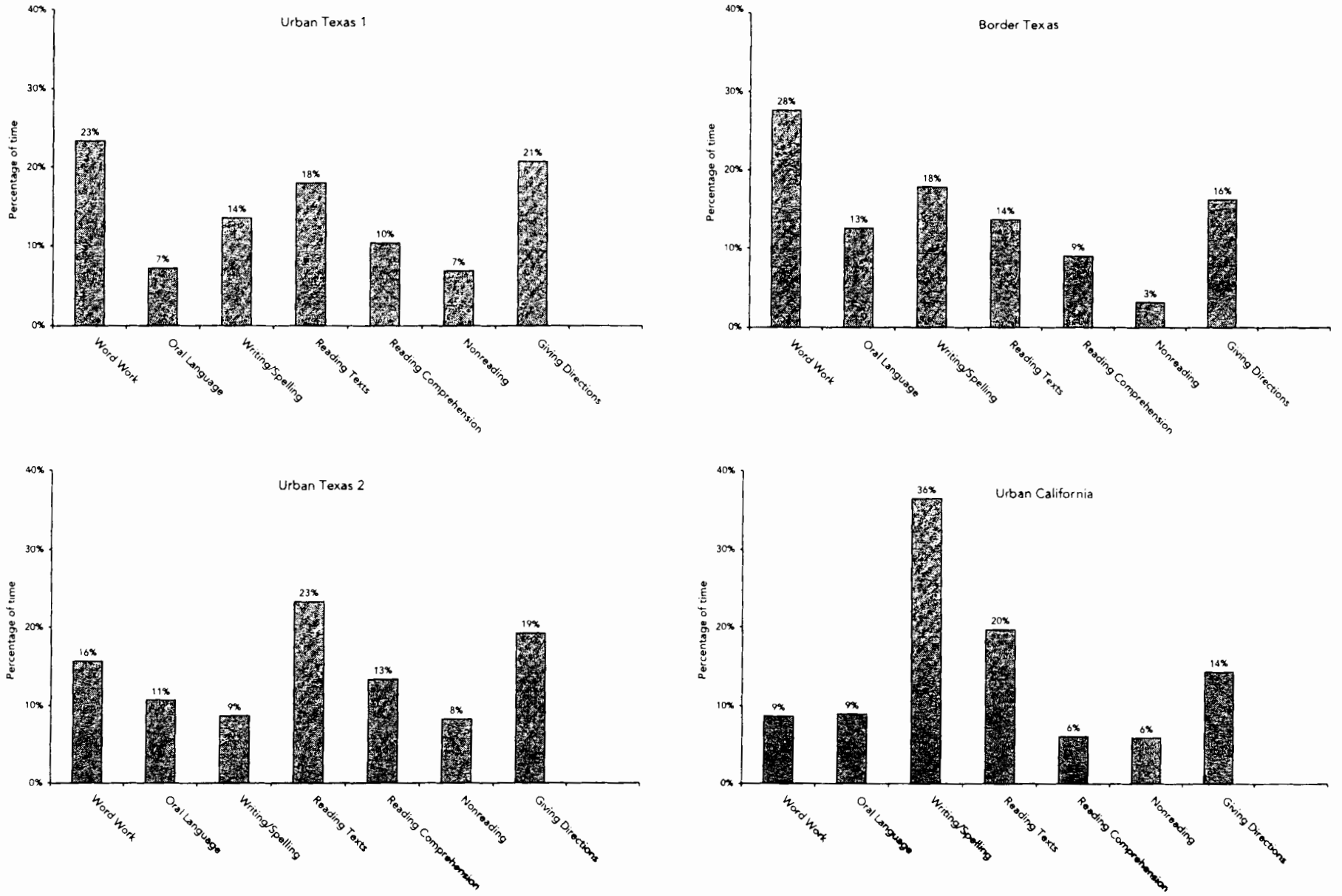

Figure 13.2 Percentage of time allocated to reading/language arts activities in grade 1 primary-language classrooms in four sites in urban Texas, Border Texas, and urban California.

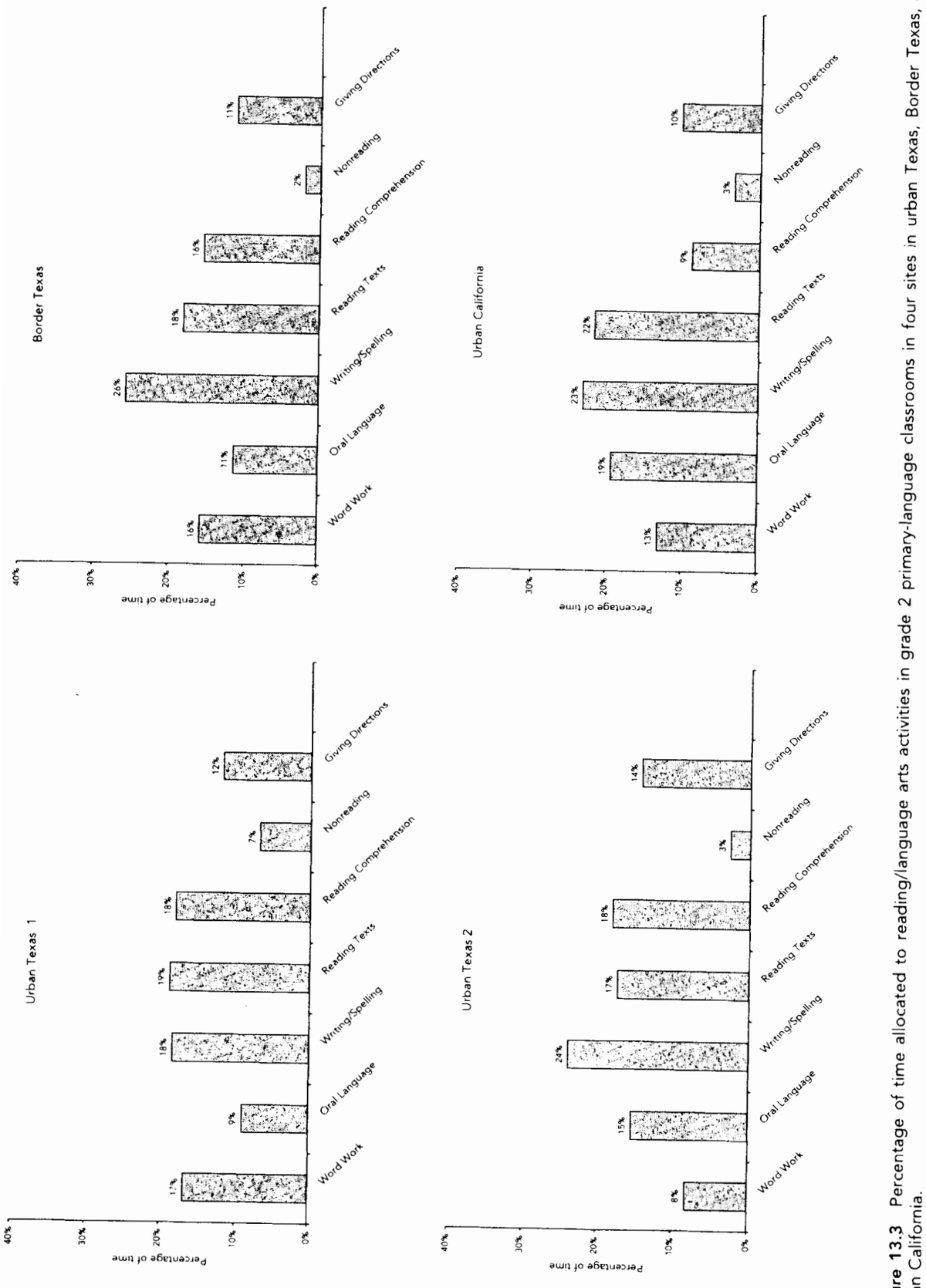

Figure 13.3 Percentage of time allocated to reading/language arts activities in grade 2 primary-language classrooms in four sites in urban Texas, Border Texas, and urban California.

(22%) as on Reading Comprehension (9%). A notable amount of time across sites (10%–14%) is still devoted to Giving Directions.

CONCLUSION

In this chapter we have described a reliable observational system for measuring the language and content of primary-grade classrooms with large numbers of ELLs. In addition, we provided preliminary cross-sectional data in 105 kindergarten, grade 1, and grade 2 classrooms in four sites in Texas and California engaged in three models of reading/language arts instruction: primary-language instruction in Spanish (Model 1), two-way or dual-language instruction (Model 2), and English immersion (Model 3). Percentages of teacher language classified as Spanish, English, mixed, or missed during reading/language arts classes tend to support the various language models. That is, English is used primarily in Model 3's immersion classes, both English and Spanish in Model 2's dual-language classes, and a decelerating use of Spanish and accelerating use of English in Model 1's primary-language classrooms. There are differences between sites, however, such as more mixed language in two of the Texas sites. Site differences are further accentuated when ELD classes are considered. More time is allocated to developing English skills in ELD classes in the urban California site, in contrast to the emphasis on developing reading skills in the Texas sites. In Border Texas, ELD classes consist of more opportunities for Writing/Spelling.

The pattern of student language, like that of teacher language, tends to support the language models. During the reading/language arts block, students tend to speak Spanish in Model 1's primary-language and Model 2's dual-language classrooms and English in Model 3's immersion classrooms. However, a relatively large amount of language mixing was observed, especially in the Border Texas site. During ELD classes, students tend to speak mainly Spanish in Model 1's primary-language classes in both urban Texas sites and in Model 2's dual-language classrooms in the second urban Texas site. Thus, when the mixing of languages is taken into account, a geographical difference in student language emerges: There is more use of primary language in the Texas sites compared with the California site.

When the content of literacy instruction is examined, we see some common themes emerging from the profiles of time allocation

in both ELD and reading/language arts classes. First, more time tends to be allocated to Oral Language activities in the urban California site than in the Texas sites. In contrast, in the Texas sites more time tends to be allocated to the reading-related activities of Word Work and Reading Comprehension. All sites tend to spend more time Reading Texts than working on Reading Comprehension except in the second urban Texas site. Interestingly, classrooms in this second urban Texas site emphasize Reading Comprehension over Reading Texts not just in reading/language arts classes but during ELD classes as well. As we follow these students over time, it will be interesting to see how the relative trade-offs of different allocations of instructional time affect achievement outcomes. Is it better to allocate more time to building oral language skills through vocabulary instruction and discussions of text read to students or is it better to emphasize word-level decoding and comprehension of text that students read? Researchers (e.g., Fitzgerald & Noblit, 2000) have stressed the importance of building oral language skills while alphabetic knowledge is mastered so that text comprehension does not suffer later. However, no one has examined how allocation of instructional time or language use explains variability in student outcomes.

Finally, our sites were relatively similar in their percentages of time devoted to Nonreading Activities and Giving Directions (0%–14% for Nonreading Activities and 0%–21% for Giving Directions). These percentages are nowhere near the 67% of noninstructional time many researchers have noted (Allington & McGill-Franzen, 1989; Simmons et al., 1995), and this may be due to our method of sampling schools based on state accountability data. Nonreading activities have been shown to negatively relate to rating of teaching effectiveness for first-grade teachers (Foorman, Schatschneider, Fletcher, Francis, & Moats, 2003). However, the impact on student outcomes of teachers' time spent giving directions is less clear. Taylor, Peterson, Pearson, and Rodriguez observed classrooms in eight high-poverty elementary schools and concluded that "the more a teacher was coded as telling children information, the less the children grew in reading achievement" (2002, p. 278). They interpreted this finding as supporting a "student-support stance" in contrast to a "teacher-directed stance" in the classroom. There may, however, be a threshold for giving directions related to instruction beyond which student achievement is adversely affected. Furthermore, we surmise that it is not just the *quantity* of time devoted to teaching particular content that matters but that it is the *quality* of teaching that ultimately matters for student learning.

In summary, instructional practices and the language used in classrooms with large numbers of ELLs emerge as distinct variables in the data presented in this chapter, and both variables vary by site. Site differences will be informed by our analyses of home and community variables. Our next step is to look at how these classroom-level variables moderate relations between students' language and literacy proficiency at the beginning of the year and their achievement outcomes at the end of the year, taking into account contextual differences among sites. Classrooms are complex systems, and only by working with teachers to systematically gather evidence of what counts as good teaching can we improve instructional practices for all students, including ELLs.

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