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ABSTRACT

Six hundred, 4-, 5-, and 6-year-old bilingual, rural, and urban children from southwestern, midwestern, eastern, and southern United States participated in a national study of Spanish/English bilingual development. Half of these children completed the English version of CIRCO (1980) sub-test 10-C, a productive language measure that requires children to relate a description of a two dimensional picture. Half of the children completed the Spanish version of this same instrument. Analyses were performed on these English and Spanish samples regarding Mean Length of Utterance and intrasentential language switching. Comparisons were possible across: age, rural/urban status, and region (and to some extent, Hispanic ethnicity). On measures of linguistic proficiency, consistent differences were observed in developmental trends for Spanish and English. For Spanish, linguistic proficiency measures increased from ages 4 to 5, then decreased at age 6. For English, these same measures showed a continuous increase across age groups. On language switching measures, regional differences were observed regardless of age. Almost no rural/urban differences were observed. These findings are discussed from both a language acquisition perspective and a bilingual education perspective. (Author/AH)

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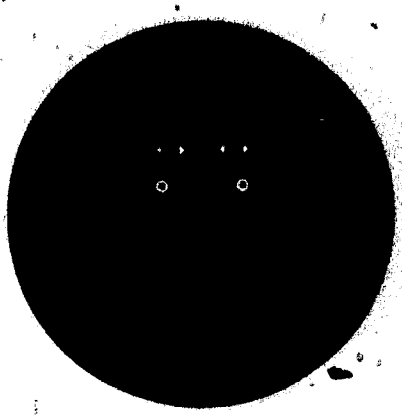

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A NATIONAL STUDY OF SPANISH/ENGLISH BILINGUALISM IN YOUNG HISPANIC CHILDREN OF THE UNITED STATES

Eugene E. Garcia
Arizona State University

Lento Maez

Gustavo González
University of California,
Santa Barbara

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A NATIONAL STUDY OF SPANISH/ENGLISH BILINGUALISM IN YOUNG HISPANIC CHILDREN OF THE UNITED STATES

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ABSTRACT

Six hundred, four-, five-, and six-year-old bilingual, rural, and urban children from the southwestern, midwestern, eastern, and southern United States participated in a national study of Spanish/English bilingual development. Half of these children completed the English version of *CIRCO* (1980) sub-test 10-C, a productive language measure that requires children to relate a description of a two dimensional picture. Half of the children completed the Spanish version of this same instrument. Analyses were performed on these English and Spanish samples regarding Mean Length of Utterance (MLU) and intrasentential language switching. Comparisons were possible across: (1) age, (2) rural/urban status, and (3) region (and to some extent, Hispanic ethnicity).

Results of these analyses indicate:

A. On measures of linguistic proficiency, consistent differences were observed in developmental trends for Spanish and English. For Spanish, linguistic proficiency measures increased from ages four to five, then decreased at age six. For English, these same measures showed a continuous increase across age groups.

B. On language switching measures, regional differences were observed regardless of age.

C. Almost no rural/urban differences were observed.

These findings are discussed from both a language acquisition perspective and a bilingual education perspective.

INTRODUCTION

The issues surrounding bilingualism are of specific interest to a large segment of this nation's population (United State Commission on Civil Rights, 1975) and of general interest to those individuals studying the general phenomenon of language acquisition (McNeil, 1966). For the past ten years, numerous educationally related research and program development efforts have been initiated in this area. (For example, the 1976 budget for bilingual education projects was projected at nearly $100 million.) An important aspect of this development has been the emphasis on developing models relevant to the formal teaching (and learning) of more than one language.

One of the first systematic investigations of bilingual acquisition in young children was reported by Leopold (1939, 1947, 1949a, 1949b). Leopold set out to study the "simultaneous acquisition of English and German in his own daughter. These descriptive reports indicate that although the subject was exposed to both languages during infancy, she seemed to weld both languages into one system during initial language production periods. Language production during later periods (two years, two months to two years, six months) indicated that the use of English and German grammatical forms developed independently.

The study of bilingualism has recently taken on multifaceted investigational strategies focusing on other than the structural

analysis of produced language. Within this framework, Carrow (1971, 1972) has restricted her study to the receptive domain of young bilingual Mexican-American children in the Southwest. Children (ages 3 years, 10 months to 6 years, 9 months) from bilingual, Spanish/English home environments were administered the auditory *Test for Language Comprehension* (1980). This test assesses language comprehension without requiring language expression. A comparison of English and Spanish comprehension on this task for bilinguals revealed: (1) linguistically, children were very heterogeneous. Some scored better in one language than another, others were equal in both; (2) a greater proportion of children scored higher in English than in Spanish; and (3) both languages tended to improve across the linguistic parameters measured as the children became older (Carrow, 1971). (This was the case even though Spanish was not used as a medium of instruction for older children in educational programs.)

In a cross-sectional comparison of English comprehension among monolingual English and bilingual, Spanish/English children (ages 3 years, 10 months to 6 years, 9 months), Carrow (1972) reported a positive developmental trend for both Spanish and English in bilingual children. Additionally, bilingual children tended to score lower than monolingual children in English measures during ages 3 years, 10 months to 5 years, 9 months; but for the final age comparison group (6 years, 9 months), bilinguals and monolinguals did not differ significantly on these same English measures. These combined results seem to indicate that at the receptive level, Spanish/English bilingual children were progressing (in-

creasing their competence) in both Spanish and English. Bilingual children tend to be heterogeneous as a group, favoring one language (typically English) over another; and bilingual children "lagged" behind monolingual children in their acquisition of English but eventually caught up. Although there were obvious constraints to the specific conclusions reported above their generalizations to other populations of bilingual children, they do offer some empirical information relevant to the study of early childhood bilingual development.

More recently, Padilla and Liebman (1975), Huerta (1977), and Garcia (in press) report the longitudinal analysis of Spanish/English acquisition in young Spanish/English bilingual children. These researchers followed the model of Brown (1973) in recording linguistic interactions of these children over a five-month period. By an analysis of several dependent linguistic variables (phonological, grammatical, syntactical, and semantic characteristics) over this time period, they observed gains in both languages, although several English forms were in evidence while similar Spanish forms were not. They also report differentiation of linguistic systems at phonological, lexical, and syntactic levels. Padilla and Liebman (1975) concluded:

> The appropriate use of both languages even in mixed utterances was evident; that is, correct word order was preserved. For example, there were no occurrences of "Raining esta" or "a es baby" but there was evidence for such utterances as "esta raining" and "es a baby". There was also an absence of the redundance of words in mixed utterances as well as the absence of unnecessary words for which might tend to confuse meaning. (p. 51)

This conclusion as well as those discussed earlier must remain tentative due to the small sample of both subjects and linguistic productions studied. Most importantly, the reported work has been restricted to specific regions of the United States; there has been no comprehensive effort to evaluate bilingual acquisition in children on a national scale.,

The intent of the present study was to work with productive language data gathered in a national Spanish/English test standardization effort conducted by Educational Testing Service. This agency was funded by the Department of Health, Education, and Welfare to develop and standardize a series of easily administered tests that measured several cognitive and linguistic attributes in Spanish/English, bilingual children throughout the United States (*CIRCO*, 1980). The standardization involved approximately 6,000 children of Hispanic descent (Chicano, Puerto Rican, and Cuban) between the ages of four and six years. Data of interest in this study were gathered on a sub-test of the *CIRCO*. During the sub-test, trained examiners interacted informally and individually with children. Children were requested to "tell a story," which was related to a two-dimensional picture displayed by the examiner. This study attempted to provide an analysis of speech recorded during these interactions for a selected number of children from sites located throughout the United States. In doing so, it provides one of the first detailed analyses of Spanish and English in different population groups of the United States.

GENERAL SUBJECT AND PROCEDURE DESCRIPTION

All children administered either the Spanish or English version of sub-test 10C (*CIRCO*, 1980) were initially successful in completing a Spanish/English receptive pre-test of mild difficulty. Therefore, each was considered bilingual. Additionally, all children were reported by parents as members of a home environment in which both Spanish and English were spoken. Sub-test 10C of the *CIRCO* battery obtained a measure of "spontaneous speech." In doing so, trained examiners engaged each child in an informal conversation concerning a picture of a "neighborhood" (Spanish test picture) or "classroom" (English test picture) setting. The examiner recorded the child's commentary verbatim. It is these data that were used for the analyses performed in the present study. Subject transcripts from six regions were included: (1) West (California); (2) Southwest (Colorado, New Mexico, and Arizona); (3) Texas; (4) Midwest (Illinois); (5) East (New York and New Jersey); and (6) South (Florida). For each region, subjects were randomly selected from pre-school (Headstart), kindergarten, and first grade who had taken the test with the following constraints: (a) 20 subjects who had taken the English test; (b) 20 subjects who had taken the Spanish test; and (c) half (10) of the subjects selected resided in an urban setting (a population by acre ratio of 1000/1 or higher). Half (10) of the subjects resided in a rural setting (a population by acre ratio of 50/1 or lower). For Midwest and East regions, no subjects were included in the testing. Therefore, a total of 600 separate subject transcripts

were included in the study (see Table 1 for an overall summary of the subject characteristics).

STUDY I

Of primary interest in this study was the analysis of Mean Length of Utterance (MLU). This measure has been proposed as a relatively standard assessment of language development in children (Snow, 1972; Brown, 1973). This measure has as an index the number of morphemes per utterance, where an utterance is a unit of speech demarcated prosodically and by pauses. MLU for English language samples was calculated in this manner (see Table 2). For Spanish language samples, these same considerations were also used as the basic guide (see Table 3). One major problem with this measure when comparing across Spanish and English is the idiosyncratic morpheme structures (and unequalness in availability of morphemes) within each language. For instance, the utterance "*la muchacha*" would receive the score of three using the adopted morpheme guide: the article "*la*" = one point. This is not the case for the English utterance, "the girl"; this utterance would receive only a score of two. Because of several of these inequalities, it is not permissible to directly compare Spanish and English Mean Length of Utterance.

Results

The results of this study have been dealt with in a hierarchical manner. In doing so, it is possible to provide, first, general comparative results, then, more specific results for Spanish and English tested children across grade level and age grade

Table 1

SUMMARY OF SUBJECTS

Region	Tested in Spanish						Tested in English						
	Urban			Rural			Urban			Rural			
	Pre-K	K	1	Pre-K	K	1	Pre-K	K	1	Pre-K	K	1	E
West (California)	10	10	10	10	10	10	10	10	10	10	10	10	120
Southwest (Arizona, Colorado, and New Mexico)	10	10	10	10	10	10	10	10	10	10	10	10	120
Texas	10	10	10	10	10	10	10	10	10	10	10	10	120
Midwest (Illinois)	10	10	10				10	10	10				60
East (New York and New Jersey)	10	10	10				10	10	10				60
South (Florida)	10	10	10	10	10	10	10	10	10	10	10	10	120
TOTAL	60	60	60	40	40	40	60	60	60	40	40	40	600

Table 2

RULES FOR CALCULATING MEAN LENGTH OF UTTERANCE: ENGLISH

1. Start with the first utterance of the transcription.

2. Only fully transcribed utterances are used; none with blanks. Portions of utterances, entered in parentheses to indicate doubtful transcription, are used.

3. Include all exact utterance repetitions (marked with a plus sign in records). Stuttering is marked as repeated efforts as a single word; count the word once in the most complete form produced. In the few cases where a word is produced for emphasis or the like (no, no, no), count *each* occurrence.

4. Do not count such fillers as "mm" or "oh," but count "no," "yeah," and "hi."

5. All compound words (two or more free morphemes), proper names, and ritualized reduplications count as single words. Examples: birthday, rackety-boom, choo-choo, quack-quack, night-night, pocketbook, and see-saw. Justification is that no evidence that the constituent morphemes function as such for these children.

6. Count as one morpheme all irregular past forms of the verb (got did, went, and was). Justification is that there is no evidence that the child relates these to present forms.

7. Count as one morpheme all diminutives (doggie, Mommie) because these children at least do not seem to use the suffix productively. Diminutives are the standard forms used by the child.

8. Count as separate morphemes all auxiliaries (is, have, will, can, must, and would). Also, count all catenatives (gonna, wanna, hafta). These later counted as single morphemes rather than as "going to" because evidence is that they function so for the children. Count as separate morphemes all inflections, for example, possessive (s), plural (s), third person singular (s), regular past (d), and progressive (i).

Table 3

RULES FOR CALCULATING MEAN LENGTH OF UTTERANCE: SPANISH

1. Start with the first utterance.

2. Only fully transcribed utterances are used; none with blanks. Portions of utterances, entered in parentheses to indicate doubtful transcription, are used.

3. Include all exact utterance repetitions (marked with a plus sign in records). Stuttering is marked as repeated efforts at a single word; count the word once in the most complete form produced. In the few cases where a word is produced for emphasis or the like (no, no, no), count *each* occurrence.

4. Do not count such fillers as "eh," "mm," or "oh," but count "*no*," "*si*," "*oye*," "*ese*," and "*hola*."

5. All compound words (two or more free morphemes), proper names, and ritualized reduplications count as single words. Examples: *rompecabezas*/puzzle, *sacapuntas*/pencil sharpener, *cumpleaños*/birthday, and *abrelatas*/can opener. Justification as such for these children.

6. Count as one morpheme all irregular pasts of the verb (*hice*, *fui*, and *puse*). Justification is that there is no evidence that the child relates these to present forms.

7. Count as one morpheme all diminutives (*perrito*, *mama/mamacita*) because these children at least do not seem to use the suffix productively. Diminutives are standard forms used by the child.

8. Count as separate morphemes all auxiliaries. Examples: *Dudo que él puede ir.* *¿Sabe usted jugar al* golf? Auxiliary: "can."

   Ella podía cantar bien. Auxiliary: "could"
   Pablo no pudo terminar el trabajo.

   Usted debería ir a verlos. Auxiliary: "should"
   Yo sabía que debía buscarle.

9. Count as separate morphemes all inflections, for example, plural (s, es) *casas*, *trenes*; progressive (*iendo*, *ando*) *comiendo* *tomando*.

10. Count as separate morphemes all single articles (*el*, *la*, etc.) and demonstrative pronouns (*esta*, *este*, etc.).

Table 3 (continued)

11. Count as separate morphemes all contractions (*de el = del, a el = al*). (*Viene del norte. Vamos al cine.*) These seem to be standard forms.

12. Count as additional morphemes article-noun and pronoun-noun agreement for both number and gender (*el pato, los patos*: *el* is scored as two morphemes because it agrees in number and gender with *pato*).

level, age and urban or rural status, and region. (Figures 1-5 present these comparisons, respectively.)

Grade Level. For Spanish-tested subjects, mean MLU is high (near 10.0) at pre-kindergarten and rises at kindergarten (to near 12.0). Mean MLU then drops at first grade to a level near that at pre-kindergarten. For English-tested subjects, mean MLU is near 5.0 at pre-kindergarten, just below 8.0 at kindergarten, and just above 8.0 at first grade. Therefore, the pattern for Spanish-tested subjects indicates an increase in mean MLU from pre-kindergarten to kindergarten, then a drop at first grade. The pattern for English-tested subjects indicates a continued increase in mean MLU from pre-kindergarten through kindergarten to the first grade. (See Figure 1.)

Grade level for Spanish tested subjects, mean MLU by grade level, increases from an initial 9.5 at the pre-kindergarten level. But, kindergarten and first-grade scores are lower for rural status children than for urban status children, especially at first grade (11.0 for urban status subjects and 9.1 for rural status subjects). Moreover, MLU scores for urban status subjects increase from pre-kindergarten to kindergarten with no difference in kindergarten and first-grade level MLU socres. Similarly, an increase in Spanish in MLU scores was observed for rural status subjects from pre-kindergarten to kindergarten; but, the same measure at the first-grade level is lower than either pre-kindergarten or kindergarten. (See Figure 2.)

For English tested subjects, an increase in scores for both urban and rural status subjects was observed. Urban subjects

Figure 1

MEAN MLU SCORES FOR ENGLISH AND SPANISH TESTED SUBJECTS BY GRADE LEVEL

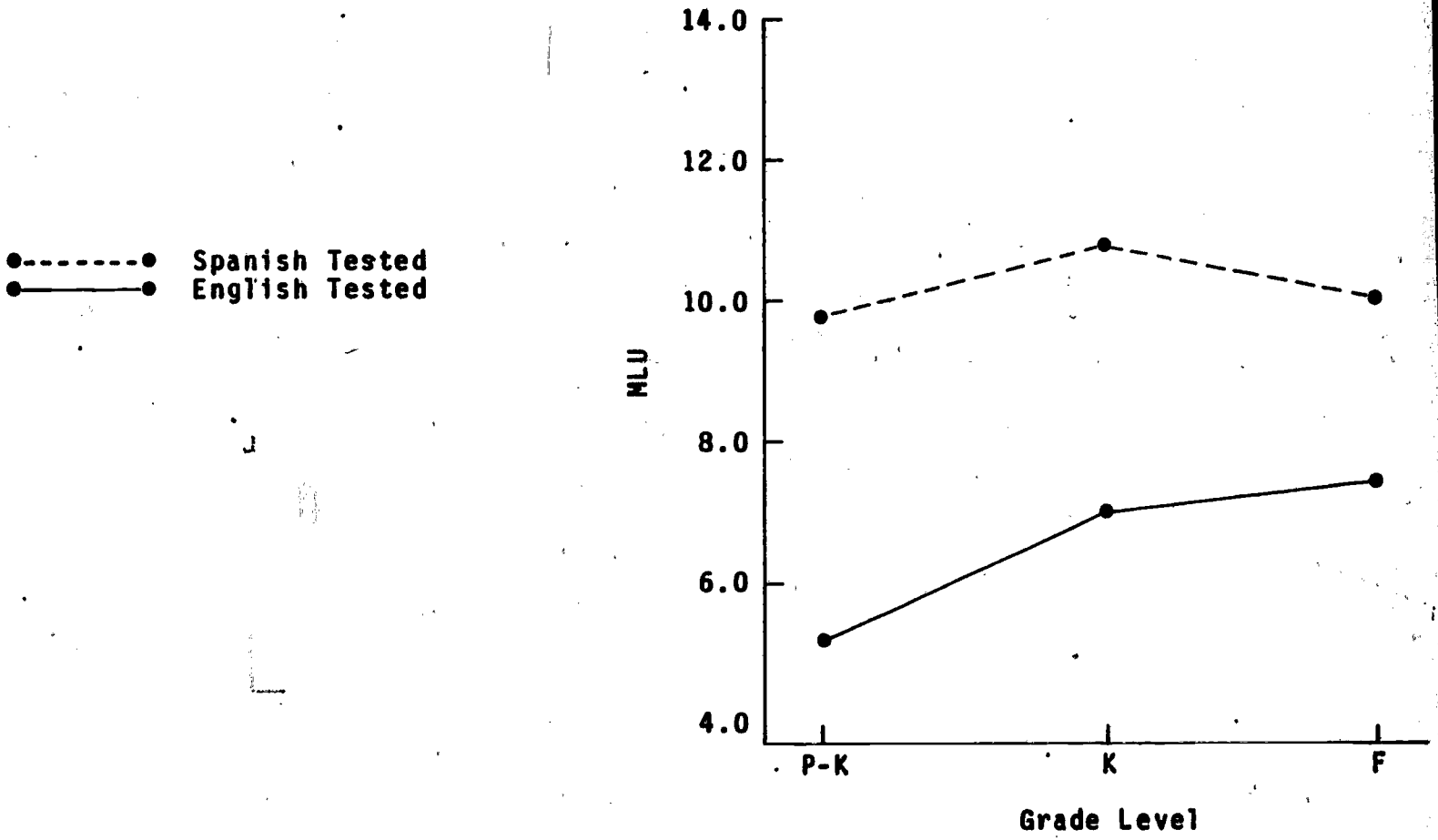
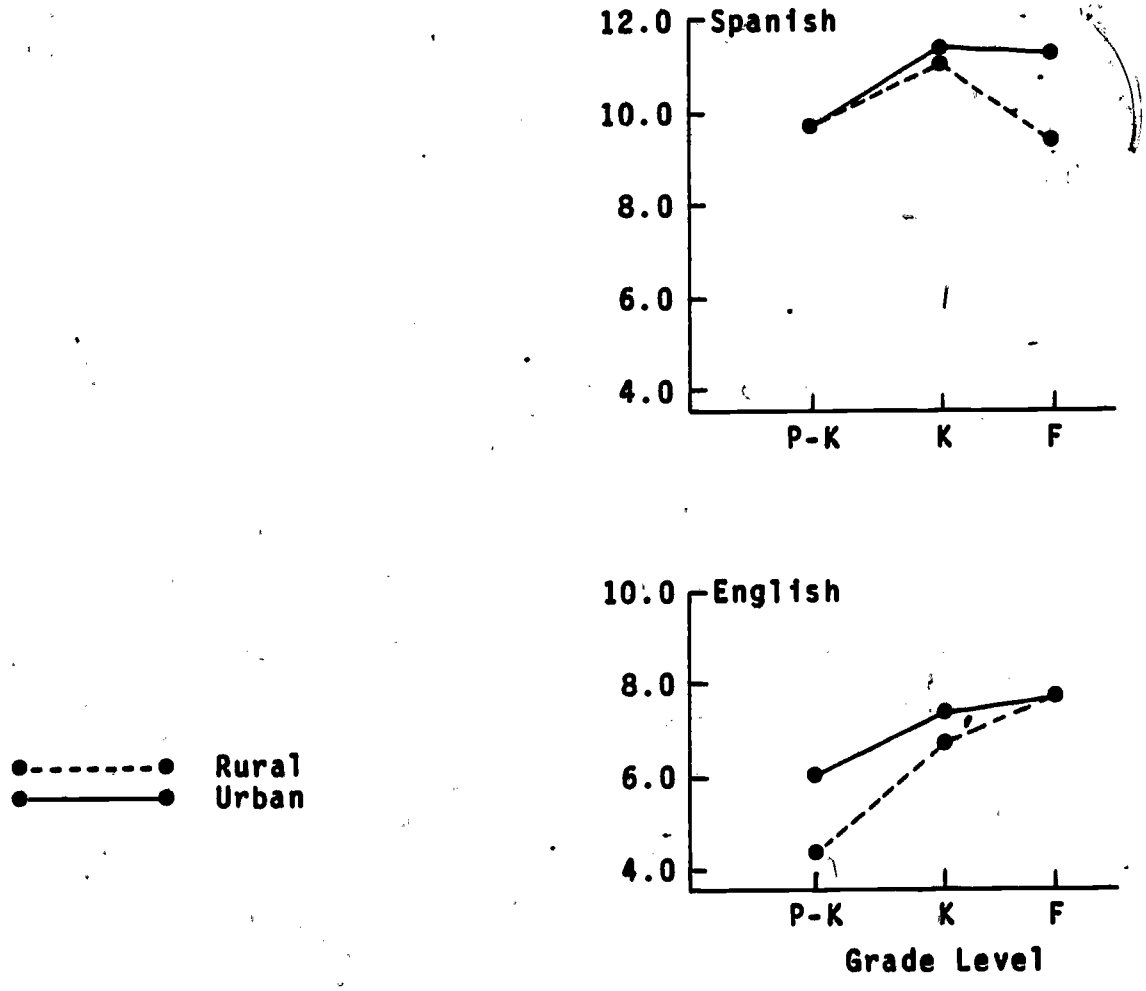


Figure 2

MEAN MLU SCORES FOR SPANISH AND ENGLISH TESTED SUBJECTS FOR EACH REGION BY RURAL/URBAN SITE AND GRADE LEVEL



scored higher at pre-kindergarten levels (6.0 for 4.2 rural subjects) but scored higher at pre-kindergarten (6.3) and first grade (7.1). (See Figure 2.)

Grade Level X Region. For Spanish tested subjects, mean MLU scores centered near 10.0. Only subjects in the West region seemed to score consistently above this central score (range 10.0 to 12.4). In five of six regions, mean MLU scores increased from pre-kindergarten to kindergarten, then dropped at first grade. Only in the Texas region was this not the case. In this region MLU scores dropped from pre-kindergarten to kindergarten then rose again, near, but still lower than at the pre-kindergarten level. (See Figure 3.)

For English tested subjects, mean MLU scores ranged from 4.8 to 9.8 and centered near 6.5. An increase from pre-kindergarten to kindergarten to first grade was observed in four (West, Texas, East, and South) of six regions. In the Southwest and Midwest regions, an increase (more than 2.0) from pre-kindergarten occurred with a consistent but small (less than .20) decrease from kindergarten to first grade. Therefore, little differences were observed for either Spanish or English tested subjects by region, although there was some variability. (See Figure 3.)

Grade Level X Region X Rural/Urban Status. Figure 4 presents the mean MLU scores for Spanish tested subjects for each region by grade level and rural/urban status. Similarly, Figure 5 presents mean MLU scores for English tested subjects. (Note that no rural status subjects were tested in the Midwest and East regions.)

Figure 3

MEAN MLU SCORES FOR SPANISH AND ENGLISH TESTED SUBJECTS FOR EACH GRADE REGION BY GRADE

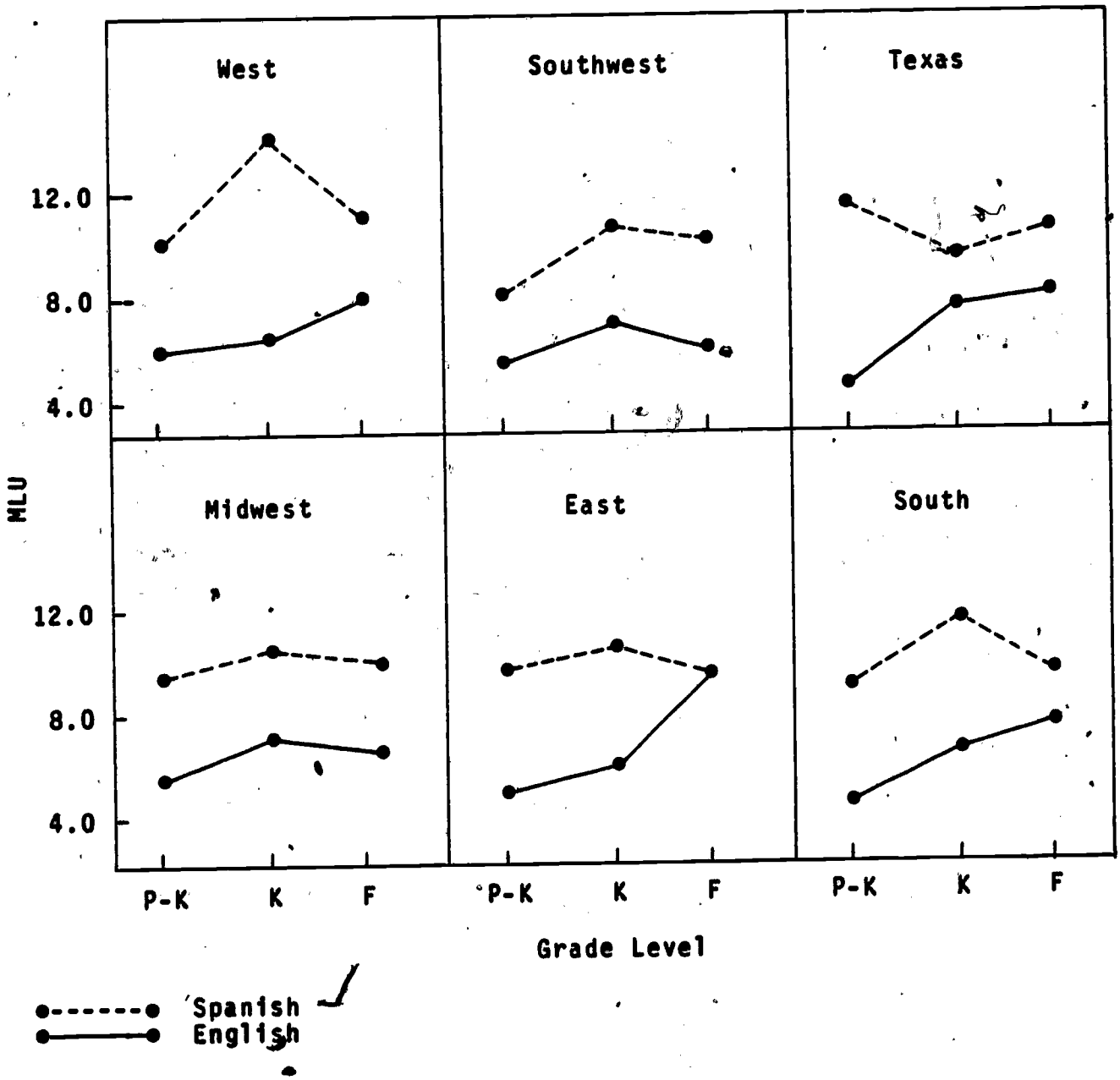


Figure 4

MEAN MLU SCORES FOR SPANISH TESTED SUBJECTS FOR EACH REGION BY RURAL/URBAN SITE AND GRADE LEVEL

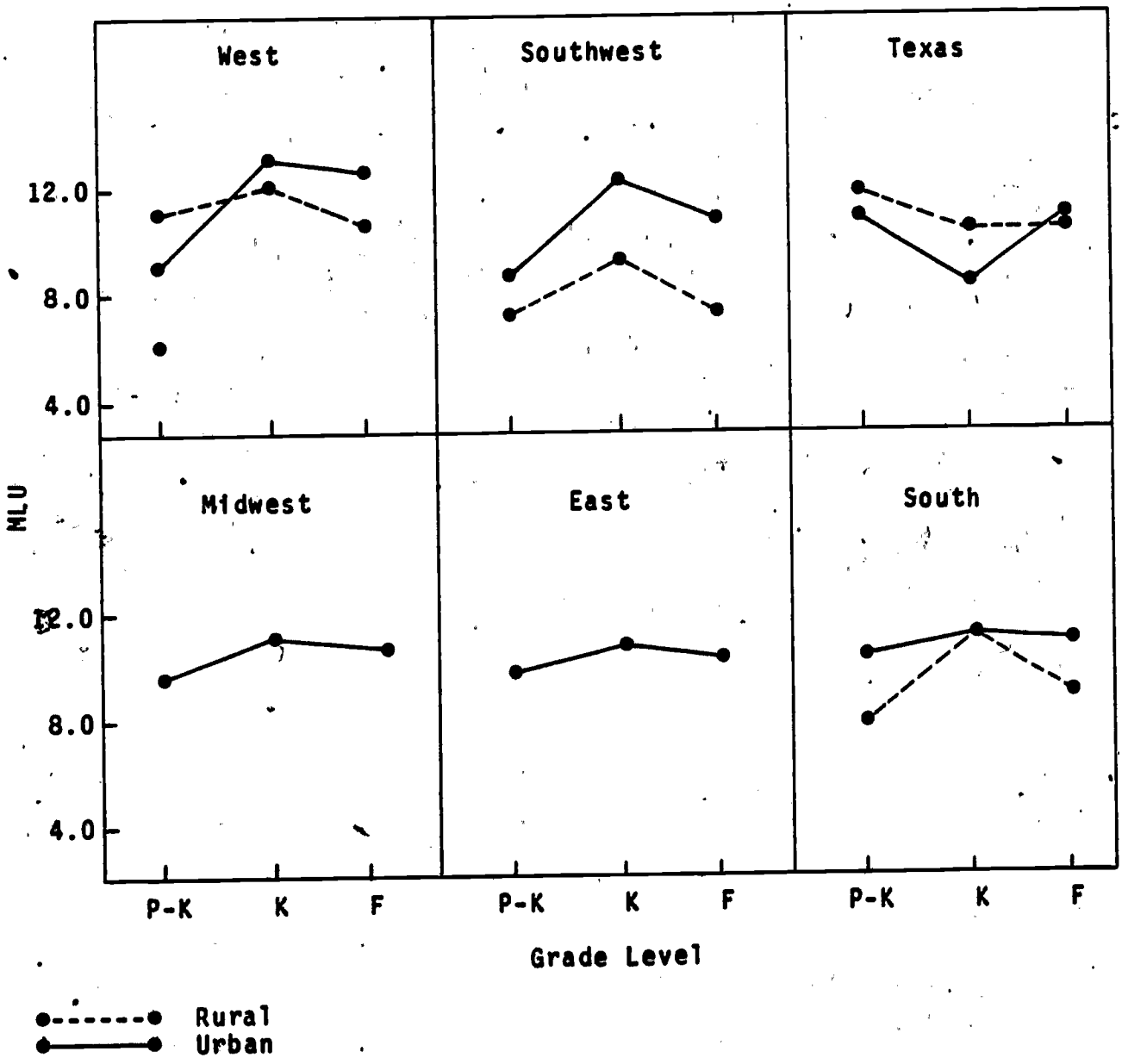
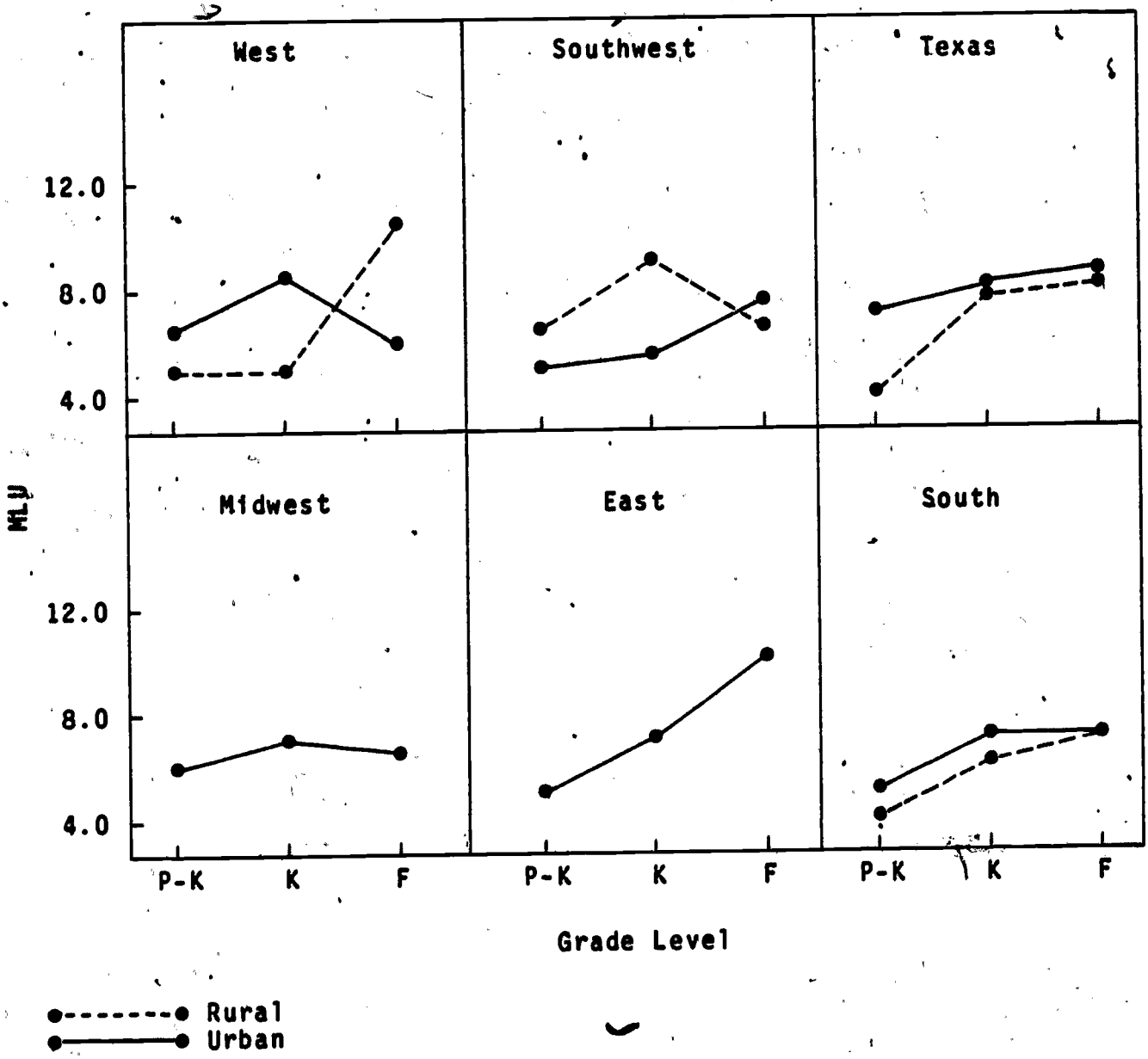


Figure 5

MEAN MLU SCORES FOR ENGLISH TESTED SUBJECTS FOR EACH REGION BY RURAL/URBAN SITE AND GRADE LEVEL



For Spanish tested subjects, urban subjects generally received higher mean MLU scores at each age level. This was not the case in Texas, where the mean MLU scores were higher for rural status children at pre-kindergarten and kindergarten levels and near equivalent to urban status children in first grade. Except for Texas, the trend for mean MLU scores to increase from pre-kindergarten to kindergarten then decrease to first grade is apparent in both urban and rural status groups.

For English tested children, the picture is more complex. In regions in which a rural/urban comparison is possible, there is no consistent pattern separating urban and rural scores by grade level. In five out of six regions, mean MLU scores displayed a pattern of increasing from pre-kindergarten to kindergarten to first grade for urban status children. A similar pattern was observed in three out of four regions in which urban and rural status subjects were tested. Although no systematic urban/rural differences emerged across regions, a similar increase in English MLU by grade level emerged across regions for both rural and urban status children.

Discussion

It was the intent of this study to provide some "gross" comparison of Spanish and English measures of bilingual Spanish/English children at certain grade levels. Moreover, the study attempted to accomplish the above by gathering language productions from different regions of the United States and from children within those regions that were either classified as inhabiting urban or rural sites. In doing so, this study represents one of the first attempts to document Spanish/English bilingualism in this

country with regional and population considerations in mind. Moreover, it provides some initial (albeit tentative) comparisons of this linguistic nature between Spanish/English ethnic groups (Chicanos, Puerto Ricans, and Cubans) in this country.

At the most general of levels, it seems appropriate to conclude that Spanish/English bilingualism is alive and well throughout the United States, regardless of grade level, region, or urban/rural status of the children included in this study. After passing an initial receptive pre-test in Spanish and English, children were randomly assigned to either a Spanish language or English language test group. Mean MLU scores for these were within a high enough range to conclude that Spanish and English productions considered the use of complex morphological "rules." Because Spanish and English differ morphologically (and, therefore guidelines for computing MLU differ), it is not possible to make any clear comparative evaluations between Spanish and English tested children. It is worthwhile to note that Spanish MLU scores were always higher than English MLU scores. Such differences seem most likely attributable to the MLU computational procedures for each language rather than higher proficiency in Spanish than English.

There is little evidence in the measures studied to indicate any strong regional or urban/rural status differences. Yet, across these parameters a pattern was identifiable for grade level comparison. For English, that pattern was one of mean MLU increases from pre-kindergarten to kindergarten to first grade. For Spanish, the pattern was succinctly different: mean MLU scores increased from pre-kindergarten to kindergarten, then dropped to below pre-

kindergarten levels at first grade.

These different patterns might be related to issues of language acquisition and language loss. Carrow (1971, 1972) has reported the increases in receptive ability correlated with increases in age for both Spanish and English in young three- to six-year-old bilingual Chicano children from Texas. Padilla (1977) has also reported the simultaneous development of Spanish and English. The present study also suggests the phenomenon of simultaneous acquisition. Pre-school children obtained relatively high MLU scores in both Spanish (MLU: 10.0) and English (MLU: 6.0); but the results also seem to suggest decreased productive level in Spanish by first grade concomitant with an increased English production level by first grade. Such a finding might indicate a "language gain" pattern for English and a "language loss" pattern for Spanish.

Such a conclusion for Spanish needs considerable tempering since the decrease in MLU scores in Spanish tested children was not dramatic. That is, mean MLU scores did not deteriorate drastically from high to low levels. If the trend were to continue at more advanced grade levels, however, this "loss" could seriously affect Spanish production.

It is not uncommon for bilingual adults to admit some form of "language loss" in Spanish primarily attributed to the overbearing monolingual English educational curriculum. In fact, the present drop in MLU is correlated with the first-grade experience in this study: a time when the oral language experiences of preschool and kindergarten are transformed to more formal written language exercises. From other reports (Lado, 1964), these exper-

iences are either totally or heavily weighted in English.

Conclusion

This study has attempted to provide a descriptive analysis of Spanish and English by using MLU as its basic measure. Samples of Spanish and English were collected from bilingual Spanish/English speaking children from six geographical regions of the United States. These children were from pre-school (Headstart), kindergarten, or first-grade classrooms in either urban or rural locales. The results of the study indicate that little regional or urban/rural differences were apparent on MLU measures. But, characteristic differences were observed between Spanish and English with respect to grade level. In English, mean MLU increased at each grade level; in Spanish, mean MLU increased from pre-kindergarten to kindergarten, then decreased to pre-kindergarten levels by first grade. These patterns were consistent across regional and urban/rural status of the children.

STUDY II

The primary interest in this study was the analysis of switched language use. For purposes of the present analysis, "language switching" was defined as a change in language within any single utterance, i.e., "*yo veo* a boy" or "I see *un querquito*." [An utterance was defined as one or more meaningful words identifying a complete thought or idea (Brown, 1973).]

Results

The results of this study have been dealt with in a hierarchical manner. By doing so, it is possible to provide general comparative results, then, more specific results for Spanish and English tested children across grade level; grade level and urban/rural status; and, grade level, urban/rural status, and region. (Figures 6-10 present these comparisons, respectively.)

Grade level. For Spanish tested subjects, language switching was at 10 percent for pre-kindergarten and kindergarten subjects, then dropped slightly to 8 percent for first-grade subjects. For English tested subjects, pre-kindergartener's mean percent language switching was 5 percent. A decrease to 1 percent was observed for kindergarten and first-grade subjects. Therefore, language switching was very low (less than 10 percent of the total) for both groups at all ages. However, language switching was twice as high for Spanish tested subjects (see Figure 6).

Grade level X rural/urban status. For Spanish tested subjects, rural and urban language switching scores were nearly identical at pre-kindergarten and kindergarten levels (10-11 percent). At first grade, rural children's mean percent switching dropped to 6 percent (see Figure 7).

For English tested rural and urban subjects, the mean percent of language switching was 5-6 percent at pre-kindergarten. At kindergarten and first grade, switching was almost non-existent (1 percent for both groups) (see Figure 7).

Grade level X region. For Spanish tested subjects, mean percent language switching was extremely variable across regions.

Figure 6

MEAN PERCENT LANGUAGE SWITCHING FOR SPANISH AND ENGLISH SUBJECTS BY GRADE LEVEL

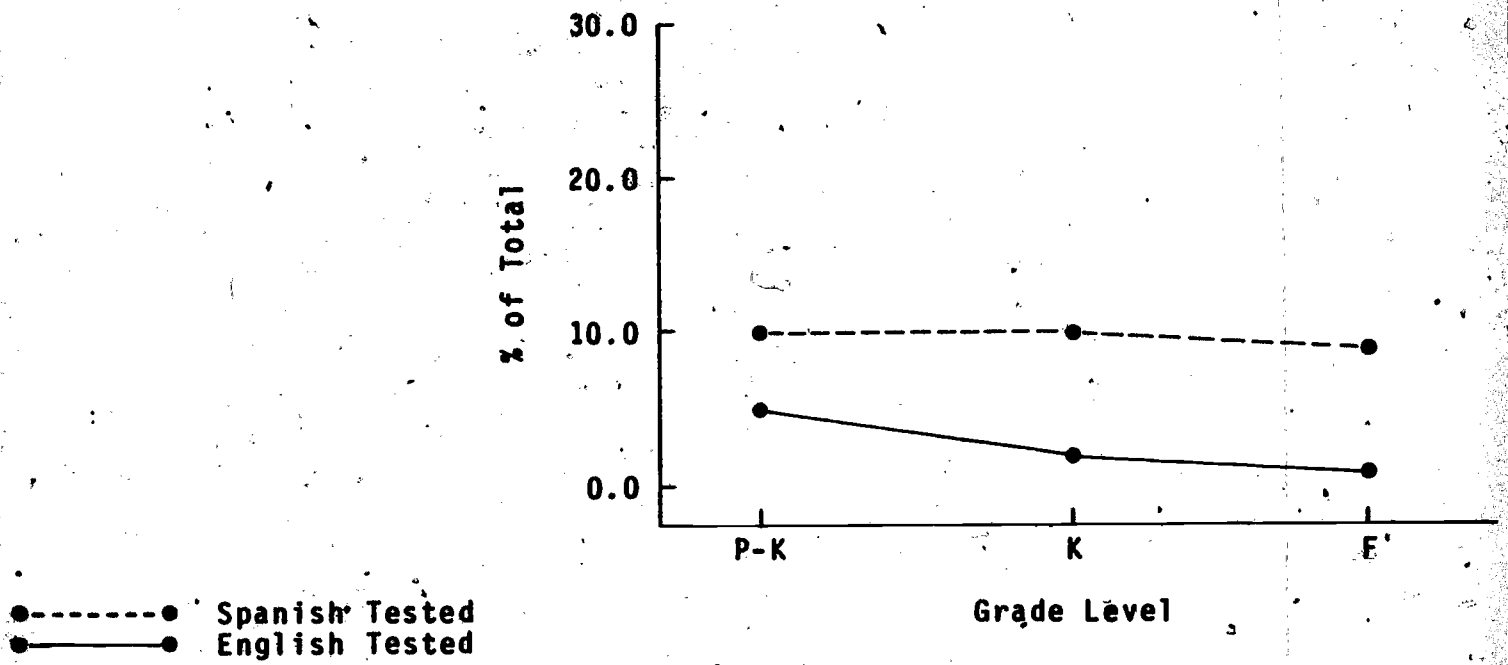
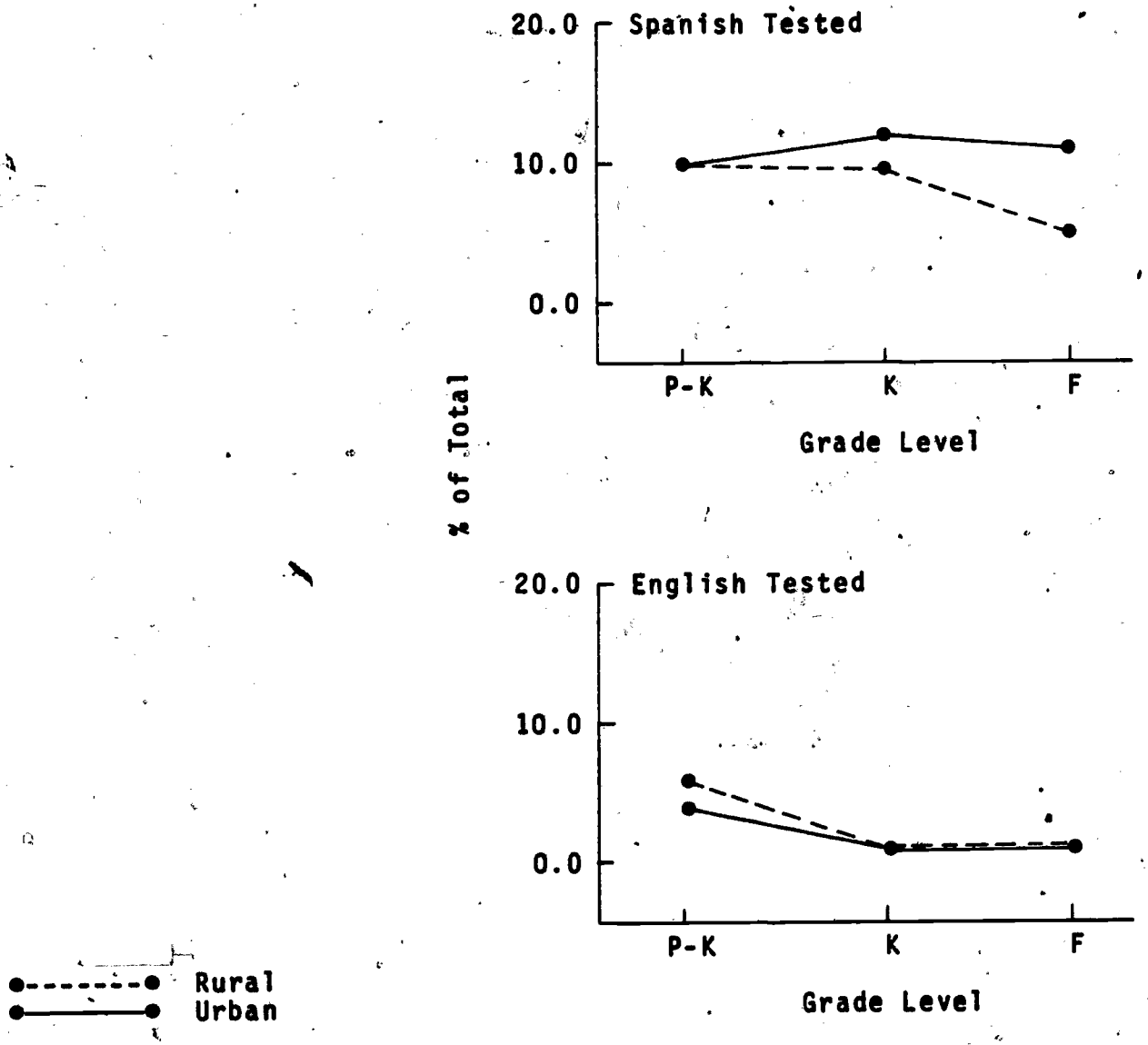


Figure 7

MEAN PERCENT LANGUAGE SWITCHING FOR SPANISH AND ENGLISH TESTED SUBJECTS BY RURAL/URBAN SITE AND GRADE LEVEL



The scores for West and South regions remained under 6 percent. For the Southwest, scores ranged between 0 and 6 percent. A high level of language switching was also observed in the Texas region (22 percent). Three regions (West, Texas, and East) were characterized by a higher percentage of language switching at first grade than at pre-kindergarten. Three regions (Southwest, Midwest, and South) were characterized by higher language switching percentages at pre-kindergarten than at first grade with the Midwest having the most dramatic decline (14 at pre-kindergarten, 6 at kindergarten, and 0 by first grade) (see Figure 8).

For English tested subjects, mean percent language switching centered near 5 percent. In all but the Midwest, mean scores decreased as grade level increased (see Figure 8).

Grade level X region rural/urban status. Figure 9 presents the mean language switching scores for Spanish tested subjects for each region by grade level and rural/urban site. Similarly, Figure 10 presents the mean language switching scores for English tested subjects. (Note that no rural status subjects were tested in the Midwest and the East region.)

For Spanish tested subjects, no consistent urban/rural differences were identified although individual regional differences were observed. For the Southwest region, urban subjects produced twice the percentage of language switching than their rural peers. For the Texas urban region, pre-kindergarten levels of switching was at zero, rose dramatically to 28 percent at kindergarten, and decreased to 17 percent, approximately rural peers, by first grade. West and South urban/rural subjects were relatively equal in their

Figure 8

MEAN PERCENT LANGUAGE SWITCHING FOR SPANISH AND ENGLISH TESTED SUBJECTS FOR EACH REGION BY GRADE LEVEL

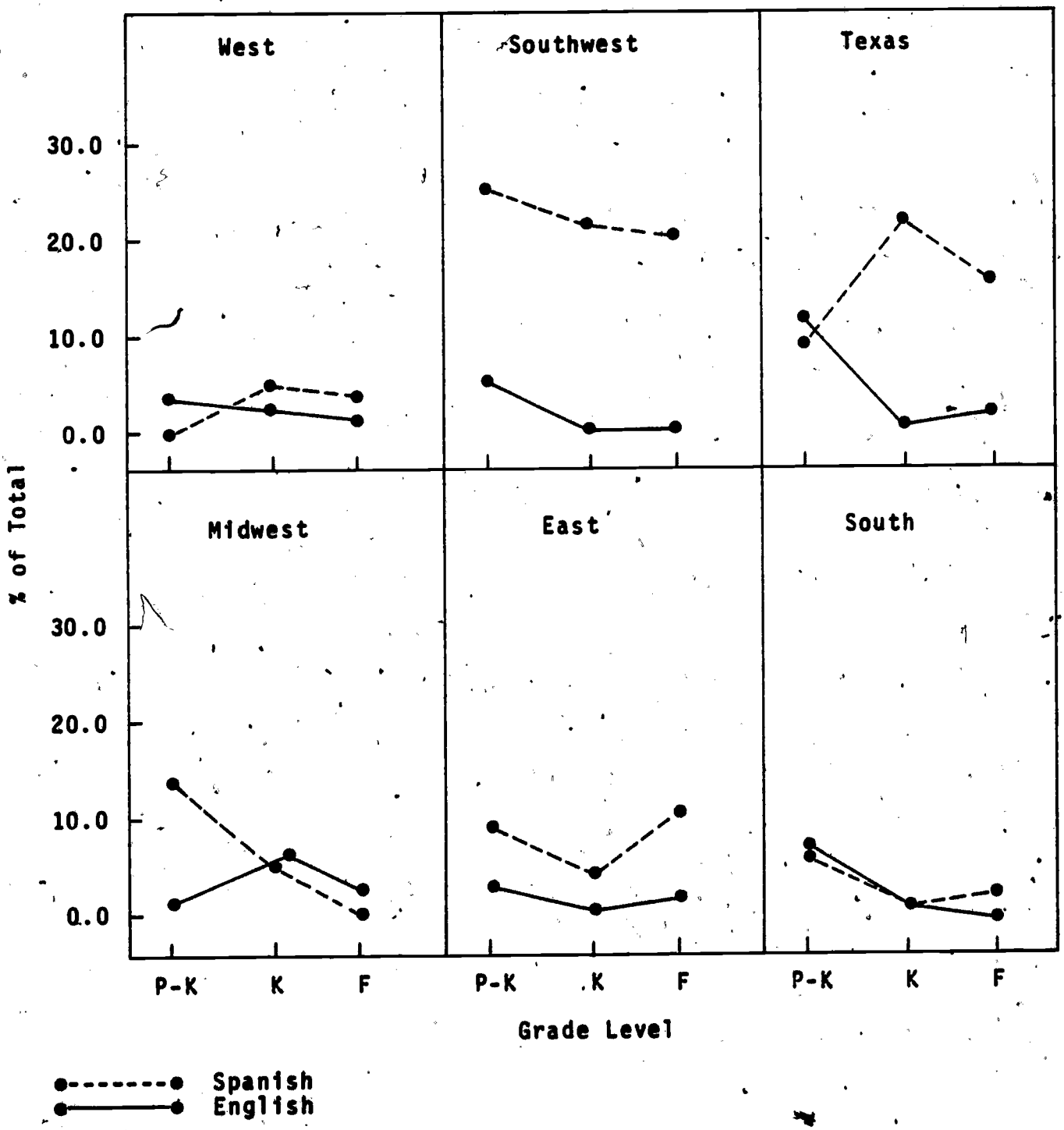


Figure 9

MEAN PERCENT LANGUAGE SWITCHING FOR SPANISH TESTED SUBJECTS FOR EACH REGION BY RURAL/URBAN SITE AND GRADE LEVEL

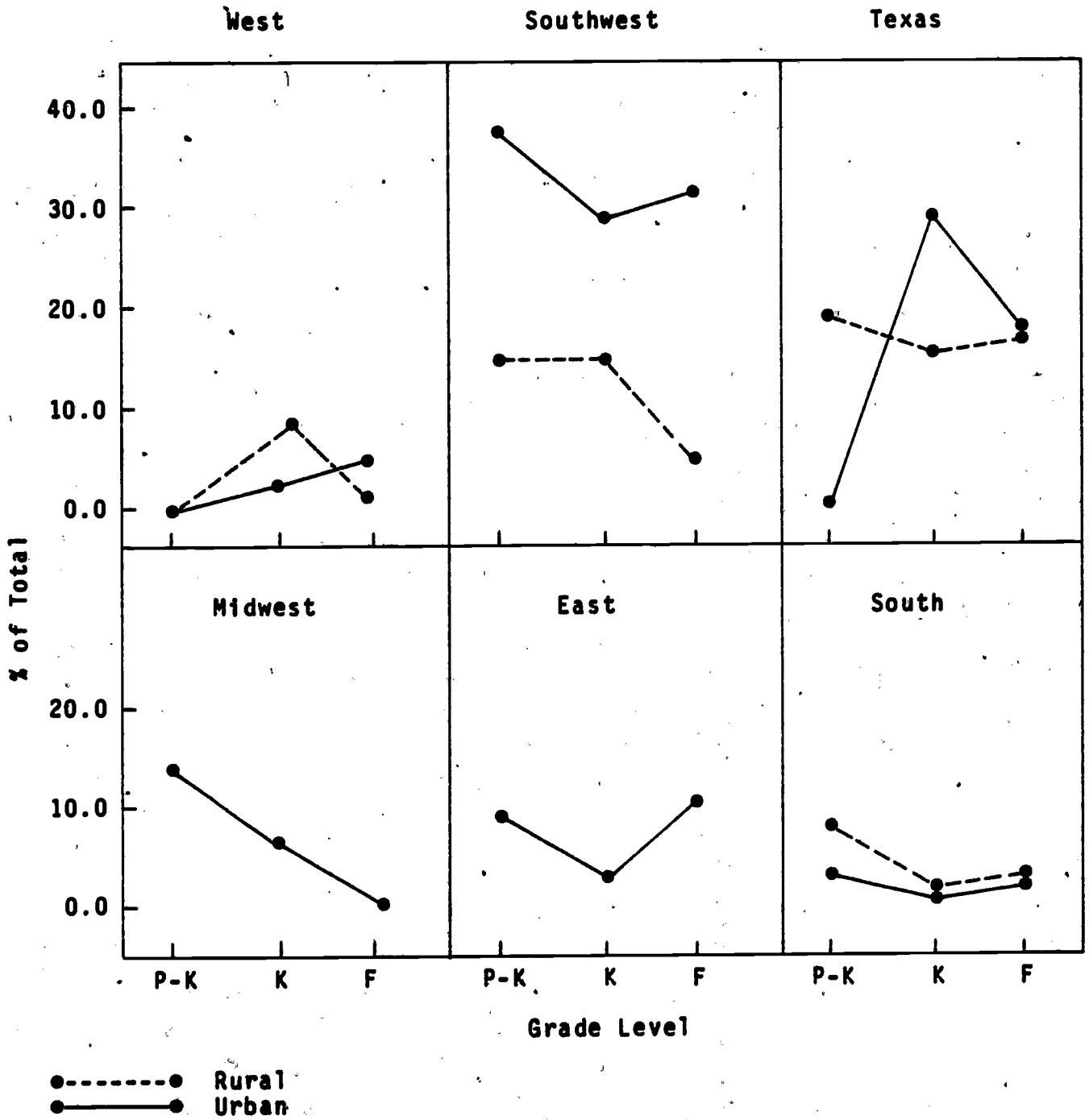
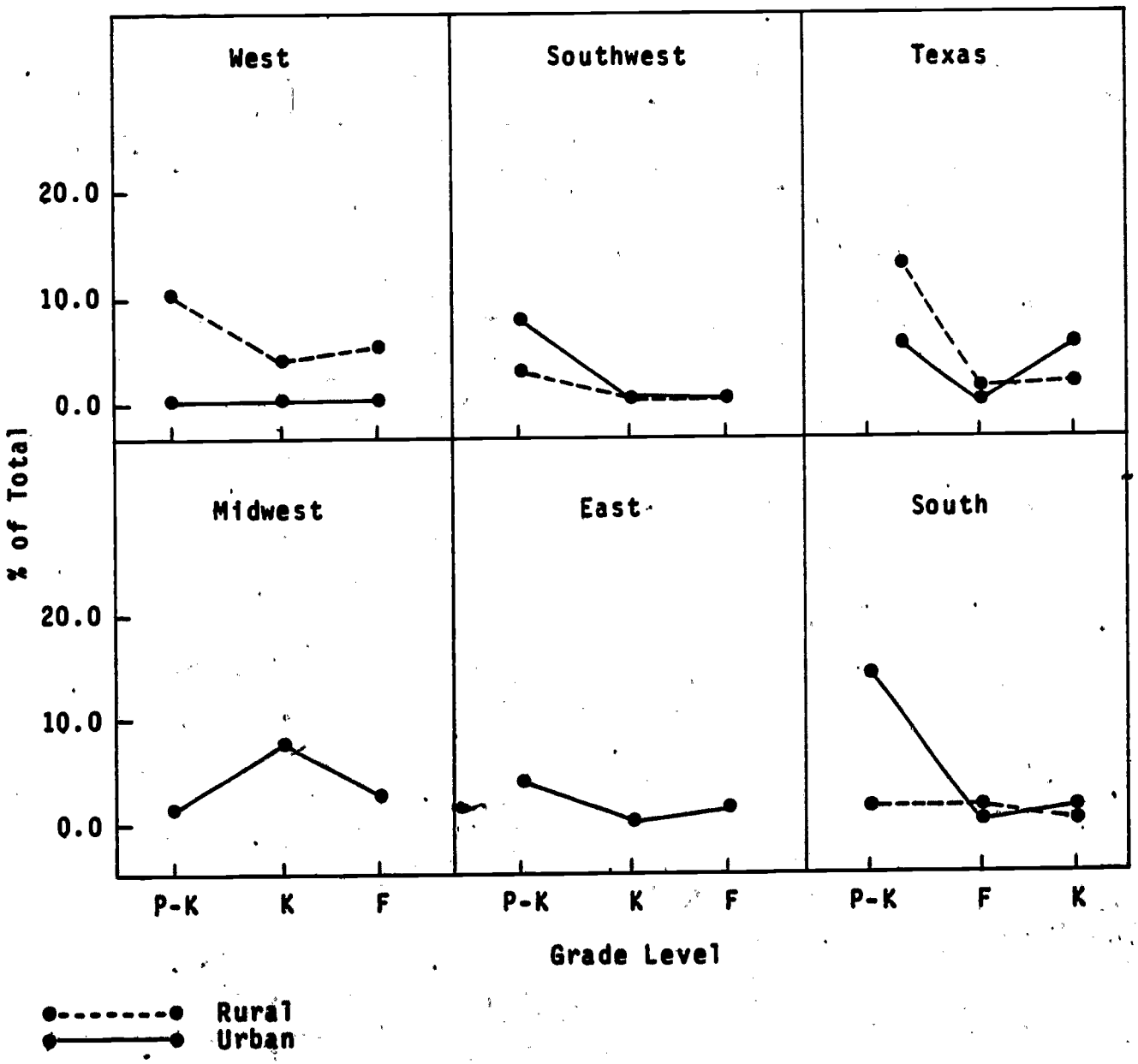


Figure 10

MEAN PERCENT LANGUAGE SWITCHING FOR ENGLISH TESTED SUBJECTS FOR EACH REGION/URBAN SITE AND GRADE LEVEL



switching across all three grade levels. Percent language switching was generally consistent across grade levels in the East region, while scores in the Midwest regions decreased from 14.0 for pre-kindergarteners to 6.0 for kindergarteners and zero for first graders (see Figure 9).

For English tested subjects (Figure 10), both urban and rural scores remained at a low level or decreased between pre-kindergarten, kindergarten, and first grade. There was no identifiable differences across regions.

Discussion

For Spanish tested subjects, regional and rural/urban differences were observed. Both rural and urban subjects from West and South regions produced little (0-8 percent) language switching. Urban Midwest and East subjects also produced little (0-14 percent) switching. In the Southwest region, urban subjects produced higher (28-38 percent) switching than rural subjects (6-16 percent) and were the highest producers of switching in this study. Similarly, a relatively higher percentage of language switching was observed in Texas region subjects: 0-28 percent for urban subjects and 15-19 percent for rural subjects.

For English tested subjects, language switching percentages remained consistently low (from 0-12 percent) across grade level, rural/urban status, and region. The trend for these subjects was for switching to decrease to near zero levels as grade level increased (see Figure 10).

Conclusion

It was the intent of this study to provide some insights into Spanish/English and English/Spanish language switching by Spanish/English bilingual children at certain grade levels across the United States. This comparison also provides some tentative contrasts between urban and rural children.

Language switching at the most general level, scores for Spanish tested and English tested subjects, were below 10 percent across all grade levels. However, language switching scores were higher for Spanish tested subjects than they were for English tested subjects across all grade levels.

Rural/urban switching scores were also below 10 percent for both Spanish and English tested subjects across all grade levels. There was no difference between urban/rural subject scores across all grade levels for Spanish tested subjects. Likewise, there was no difference between urban/rural subject scores for English tested subjects; however, English tested subjects were characterized by a downward trend across all grade levels.

The children of this study appeared to be able to separate Spanish from English due to the low switching scores at the pre-kindergarten level. Moreover, the relative level of language switching dropped to near zero level by the first grade. In essence, the subjects appeared to be able to hold close to either language being used at an early age and improved this ability with age. Although this was generally the case, the exceptions were the Southwest and Texas regions. In these regions, language switching remained high (above 10 percent) for Spanish tested

children. This exception suggests a clear regionalization of Spanish/English switching in young Hispanic children of the United States.

SUMMARY AND CONCLUSIONS

The present study has attempted to provide a preliminary analysis of the bilingual character of Hispanic children of the United States. Pre-kindergarten, kindergarten, and first grade Spanish/English bilingual children from rural/urban areas within six geographical regions of the United States, were administered a Spanish or English language production test. The test was a "free-production" form allowing the children to use their own language to describe a series of pictures. Analyses were performed on these samples regarding Mean Length of Utterance and intersentenial language switching.

The results of the MLU analysis indicated differential trends for Spanish and English development regardless of rural/urban status and geographical region of the subjects. For Spanish, mean MLU increased from pre-kindergarten to kindergarten then dropped at first grade. This was not the case for English. A continuum increase in mean MLU was observed from pre-kindergarten through first grade.

The language switching analysis indicated interesting regional differences in the quantity of switching independent of grade level and rural/urban status. Generally, language switching was found to be below 10 percent except in the Texas region. In this region it was between 20-50 percent. Moreover,

most switching was observed in Spanish-tested subjects indicating the direction of the switch was from Spanish to English.

In general, the study can report that bilingualism in young Hispanic children of the United States is alive and well. It does seem that the development of Spanish is halted at first grade while English continues to develop. Moreover, although regional differences were found in the quantity of language switching, no other regional (and possibly Hispanic ethnic differences) were observed. It was especially surprising that no rural/urban differences surfaced in the analysis.

Clearly, the present study is not a comprehensive nor as inclusive of Hispanic populations so as to allow broad generalizations. Yet, it is the first study to examine the character of the Hispanic bilingual child in the United States. Further, more detailed analysis will assist in expanding our understanding of this ethnolinguistic phenomenon which significantly affects their lives and those who serve them in an educational capacity.

REFERENCES

Brown, Roger William. *A First Language: The Early Stages.* Cambridge, Massachusetts: Harvard University Press, 1973.

Carrow, Elizabeth. "Auditory Comprehension of English by Monolingual and Bilingual Pre-School Children," *Journal of Speech and Hearing Research*, XV (1972), 407-457.

_____. "Comprehension of English and Spanish by Preschool Mexican-American Children," *Modern Language Journal*, LV (May, 1971), 299-306.

CIRCO. Berkeley, California: Educational Testing Service, 1980.

Garcia, E. *Early Childhood Bilingualism.* Los Angeles, California: University of California Press, in press.

Huerta, A. "The Development of Code-Switching in a Young Bilingual," *Working Papers in Sociolinguistics.* No. 21. June, 1977.

Lado, R. *Language Teaching: A Scientific Approach.* New York: McGraw-Hill, 1964.

Leopold, Werner F. *Speech Development of a Bilingual Child: A Linguist's Record, Vol. I. Vocabulary Growth in the First Two Years.* Evanston, Illinois: Northwestern University Press, 1939.

_____. *Speech Development of a Bilingual Child: A Linguist's Record, Vol. II. Sound Learning in the First Two Years.* Evanston, Illinois: Northwestern University Press, 1947.

_____. *Speech Development of a Bilingual Child: A Linguist's Record, Vol. III. Grammar and General Problems in the First Two Years.* Evanston, Illinois: Northwestern University Press, 1949a.

_____. *Speech Development of a Bilingual Child: A Linguist's Record, Vol. IV. Diary From Age 2.* Evanston, Illinois: Northwestern University Press, 1949b.

McNeil, D. "Developmental Psycholinguistics," *The Genesis of Language: A Psycholinguistic Approach*, eds. F. Smith, and G. Miller. Cambridge, Massachusetts: MIT Press, 1966.

Padilla, A. "Child Bilingualism: Insights to Issues," *Chicano Psychology*, ed. J. Martinez. New York: Academic Press, 1977, pp. 111-126.

_____, and Liebman. "Language Acquisition in the Bilingual Child," *The Bilingual Review/La Revista Bilingüe*, II, 1975, 34-55.

Snow, C. E. "Mother's Speech to Children Learning Language," *Child Development*, XLIII (1972), 549-565.

Test for Language Comprehension. Subtests 10E and 10S, *CIRCO*. Berkeley, California: Educational Testing Service, 1980.

United States Commission on Civil Rights. *Toward Quality Education for Mexican Americans. Report IV: Mexican American Educational Study*. Washington, D. C.: United States Commission on Civil Rights, 1975.

Eugene Garcia is Director of the Bilingual/Bicultural Education Center and Professor of Education at Arizona State University, Tempe, Arizona. He completed baccalaureate, doctoral, and post-doctoral education at the University of Utah, University of Kansas, and Harvard University, respectively.

Dr. Garcia served as a professor in Child Development at the University of Utah (1972-1976) and the University of California, Santa Barbara (1976-1980) prior to joining the faculty at Arizona State University. He has published extensively in the area of language training, language development, and bilingual development.

Gustavo González is a graduate of the University of Texas at Austin. After earning his PhD in 1970, he taught at the University of California, Davis, for two years, returning to the University of Texas on a post-doctoral fellowship, followed by a one-year appointment to the Center for Applied Linguistics in Washington, D. C. He has been affiliated with the University of California, Santa Barbara since 1974 where he is currently Associate Professor of Education and Director of the University of California, Santa Barbara's bilingual/cross-cultural programs.

The author of more than 30 publications, Dr. González has served as consultant to numerous government and private firms, including the National Institute of Education, Washington, D. C.; Office of Bilingual Education, Washington, D. C.; Stanford University, Palo Alto, California; Southwest Educational Development Laboratory, Austin, Texas; Resource Development Institute, Austin, Texas; and Development Associates, Washington, D. C. He has also conducted workshops throughout the Southwest on language acquisition, Chicano dialects, and language assessment.