Introduction to the Language Acculturation Meter™ for Spanish-Speaking English Language Learners

Sue Madden Trujillo, MS
Jennifer A. Greene, PhD
Alicia Carrillo, BS

PAR®

Executive Summary

Language acculturation refers to the degree of comfort with a new language in daily living and achieving proficiency in that language while maintaining fluency in the native language. The Language Acculturation Meter for Spanish-speaking English language learners captures an individual's background and educational history, linguistic preferences, and self-identified English comprehension in various situations to provide a framework for assessing that individual. Completed in an interview format, the instrument aims to open a dialogue that will increase a clinician's cultural awareness of the examinee and lead to a more ecologically valid assessment. Information obtained from this form will help examiners choose appropriate assessments, provide a framework for interpreting test results, and determine appropriate interventions and programming.

Introduction

Assessment of individuals with culturally and linguistically diverse backgrounds is complicated. Using an instrument in their native language does not mitigate all factors involved, and one cannot assume that all bilingual individuals have the same level of language acculturation. Acquiring the language of the host society takes place in the context of the larger acculturation process—adaptation to the prevailing social, linguistic, psychological, and cultural norms while balancing original cultural markers from the society of origin. By our definition, language acculturation refers to the degree of proficiency in, and comfort with, the new language in daily living while maintaining fluency in the native language. This process occurs over a period of time and is different for each individual.

For bilingual students and English language learners, degree of language acculturation is relevant to verbally administered psychological assessment. The Language Acculturation Meter was created to capture examinees' relevant educational history and linguistic preferences to provide a framework for informing administration and interpreting test results. The Language Acculturation Meter is designed for individuals transitioning from Spanish to English, but it may be adapted for other native language speakers who are transitioning to English language proficiency.

By our definition, language acculturation refers to the degree of proficiency in, and comfort with, the new language in daily living while maintaining fluency in the native language.

Prevalence of Native Spanish Speakers in the U.S.

Hispanics, as defined by the U.S. Office of Management and Budget (1997), are people of "Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture of origin regardless of race." In 2018, there were roughly 58.9 million Hispanic children and adults in the United States (U.S. Census Bureau, 2018a). According to the 2017 American Community Survey, about 41 million U.S. residents (13.5% of the population) speak Spanish at home (U.S. Census Bureau, 2018b).

English Language Learners in the U.S.

Students who participate in language assistance programs to improve their English-language proficiency are considered English language learners (ELL). Culturally and linguistically diverse (CLD) is another commonly used term that highlights the cultural component as well as the language difference.[1]

[1]Other common terms include: English learners (EL); English as a second language (ESL); Spanish-English dual language learners (SE-DLL); limited English proficiency (LEPO); language other than English (LOTE); and English to speakers of other languages (ESOL).

As of 2015, the number of U.S. public school ELL students reached 4.8 million (National Center for Educational Statistics [NCES], 2018), and this number continues to grow. However, state percentages of ELL students vary greatly, from 21% in California to 1% in West Virginia, and ELL students are more prevalent in urban cities (14%) than in rural areas (4%) (Bialik, Scheller, and Walker, 2018). There are also more ELL students in Grades K–6 than at the high school level.

More than 77% of ELL students, about 3.8 million, speak Spanish (NCES, 2018). However, Spanish in the U.S. is not a homogeneous language and includes multiple dialects, such as those originating in Mexico, Puerto Rico, Cuba, the Caribbean nations, Central America, and South America. According to *ACS Demographic and Housing Estimates* (U.S. Census Bureau, 2017b), self-identified Mexicans—with 63.2% of the Hispanic population—far outweigh any other Hispanic-ancestry origin in the U.S., followed by Puerto Rican (9.6%) and Cuban (3.9%). All other individuals of Hispanic and Latino origin (e.g. Salvadorian, Venezuelan) make up 23.4% of the Hispanic population in the U.S.

Transitioning from Spanish to English

The process of acquiring a second language is a progression from comprehension of basic terms in the nonnative language to the ability to converse, think, and write in that language. In the U.S., if a student's home-language survey indicates that they speak a language other than English at home, most states require an oral test of English when registering for school. Federal law mandates all students must be objectively identified to determine if there is limited proficiency in speaking, reading, writing, or understanding English. Qualified students are eligible to receive specialized services.

In the U.S., there are four English-language acquisition program types:

English as a second language (ESL): Academic content is taught in English in mainstream U.S. classrooms, and students attend a supplementary, comprehensive English-language program to develop English-language skills.

Sheltered English/structured English immersion: Academic content is taught only in English with only ELL students in the classrooms. Instruction is adjusted to students' English proficiency levels.

Bilingual: ELLs receive academic instruction both in English and the second language, eventually transitioning to English-only instruction with a goal of moving to a mainstream classroom. Transitional bilingual programs complete these transitions rapidly.

Dual language immersion/two-way bilingual: Students are taught academic content in two languages with a goal of developing proficiency in both languages. Some programs include both ELL and English-only students.

Learning a second language is a lifelong process with a wide range of individual variation. As one acquires a second language, there may be phases of silence, dysfluency, overgeneralization, attrition, and language switching and mixing. These characteristics should not be confused with a learning disability. Other factors that might affect second language acquisition include traumatic life/family experiences, anxiety, subdued personality characteristics, and poor instruction or unequipped teachers. Dominance in the newly acquired English language does not mean the individual is no longer bilingual, nor does it mean they can be compared to monolinguals.

Language proficiency, as outlined by Cummins (1979), transitions from conversational basic interpersonal communication skills (BICS) to academically proficient use of the language. BICS is the language used in day-to-day social interactions, where there are often social cues and specialized language is not required. Attaining cognitive academic language proficiency (CALP) may take seven or more years (Cummins, 2008). This is the level of language required to succeed in school, and, beyond content vocabulary, it requires the ability to synthesize, compare, and infer. Proficiency in the native language promotes proficiency in the second language. However, what a 5-year-old knows about the language will naturally be different from what a 15-year-old knows, so a child just entering kindergarten should not be expected to have the same level of academic language proficiency as a high school student.

Assessment with ELL Students and Adults

Assessment of ELL students should include measures of language proficiency in both Spanish and English (e.g., Ortiz Picture Vocabulary Test, 2018). The main question to consider is, "Does the degree of English language proficiency match age-based expectations of the assessments that will be administered?" If not, then the assessment is measuring language proficiency and not ability. For example, if assessing achievement and the individual is immersed in English instruction, it is appropriate to test for achievement using an English-language instrument. However, if testing for cognitive ability, the instrument should not measure English-language literacy.

Cognitive Assessment of ELL Students

Cognitive assessment of ELLs is a controversial topic mired in opposing viewpoints and emerging research. It is accepted that the concept of intelligence is culturally defined (Neisser et al., 1996). Assessment that relies on verbal interaction and response is naturally unfair for ELLs; however, nonverbal assessment is not free from cultural bias, either.

Clinicians, examiners, and educators should keep abreast of current research and best practices in the assessment and instruction of ELL students. The Standards for Educational and Psychological Testing (2014), the American Psychological Association (APA), and the National Association of School Psychologists (NASP) are excellent resources.

APA Multicultural Guidelines (2017) state:

> *Consideration of the appropriateness of an assessment measure is a first step to be taken by the psychologist, who is then tasked to determine whether there are other standardized measures to conduct an assessment of the client's cognitive and behavioral status (i.e., when making use of a less culturally biased measure would be helpful).*

APA recommends establishing a valid assessment system for ELL students, but, ultimately, this decision is up to state guidelines. Each state has its own academic and language development standards and assessment system, leading to a lack of compatibility between states.

Ultimately, it is the responsibility of school psychologists to advocate for bilingual students to alleviate inequities in educational and outcome resources.

The NASP Position Statement (The Provision of School Psychological Services to Bilingual Students, 2015) emphasizes the importance of training and knowledge in culturally and linguistically responsive assessment methods to minimize discriminatory assessment practices. NASP believes bilingual students should be assessed in their native language, but realizes native-language tests may not represent ELL students in the U.S., which may result in inappropriate interpretation of test results. The statement includes "inadequate or inappropriate psychoeducational assessment practices, restricted access to effective instruction, lack of understanding about language acquisition and prior academic experiences in one or more languages, and associated impact on academic achievement and grade level expectation, inappropriate special education referral practices, and limited training" as reasons for an underrepresentation of ELL students in gifted education and an overrepresentation in special education. Ultimately, it is the responsibility of school psychologists to advocate for bilingual students to alleviate inequities in educational and outcome resources.

Spanish translations of cognitive assessments are not without issues. Normative samples of currently available Spanish-version assessments do not account for various stages of language acquisition or dialect deviations. Finally, Spanish translations assume the individuals in the Spanish-speaking sample have the same background and experiences (culture) as the original normative sample, which is not the case and can lead to discriminatory outcomes. Of note, only 5.5% of psychologists in the U.S. are able to provide services in Spanish (APA, 2017).

Using translators or interpreters is not necessarily ideal, either. Potential issues relate to lack of training and expertise on the part of the interpreter, and no commonly accepted ethical standards for the interpreters or use of interpreters exists. Even for a single language, (e.g., Spanish), there are dialect differences that can affect translation. Additionally, no assessments have been standardized using interpreters, so outcomes are potentially invalid.

Multidimensional Assessment Model for Bilingual Individuals (MAMBI)

To address concerns surrounding assessment of bilingual individuals, the MAMBI provides an integration matrix that guides clinicians in the assessment decision-making process. The guiding framework, created by Ochoa & Ortiz (2005) uses three variables:

1. Language proficiency in native and English languages
2. Current and previous types of education programs (and duration)
3. Current grade level

By looking at the most salient variables to assessment, the MAMBI informs the most appropriate modality for ELL assessment (native language, English language, nonverbal, or bilingual—although these are not mutually exclusive) to obtain the most valid results. The MAMBI approach led to the development of the Culture-Language Interpretive Matrix (C-LIM; Ortiz, Piazza, Ochoa, & Dynda, 2018), which is an interpretive framework to help determine if test performance is due to cultural and linguistic difference rather than disability. It relies on two dimensions: degree of cultural loading in the assessment, and degree of linguistic demand on the examinee. This is a data-driven tool that identifies

assessments with the lowest levels of cultural loading and the highest likelihood of yielding valid scores. It further provides expected patterns of test performance based on this matrix.

Language Acculturation

Second-language learning may apply to a child who speaks their native language at home then enters the education system of the host country, or a newly immigrated individual. In either case, language acculturation is a process that occurs over a period of time, and, since it is affected by the amount of exposure to, and formal education in, the host language, it will be different for everyone. When evaluating ELL individuals, therefore, it is important to gather relevant information and determine the examinee's degree of language acculturation *before* testing to determine the most appropriate and effective measures for that individual.

Existing Acculturation Measures

Many existing acculturation measures look at various aspects of cultural change and exchange. Some acknowledge the existence of culture shock, which may include heightened anxiety and stress, silence or withdrawal, and response fatigue. Existing measures have one of two views:

1. **Linear:** A continuum from dominance in the native culture to complete assimilation in the new culture.
2. **Bidimensional:** Both cultural identities are independent and can occur simultaneously without replacing one another.

Some of these measures include demographic details; others are used in conjunction with a separate demographic survey. All scales review language use and some sort of media preference. Some scales also review cultural identity (e.g., preference of food, dance, and feelings of identity). For most scales, the items are available in both English and Spanish. For current purposes, only existing measures developed to study Spanish-speaking individuals are included here. See Table 1.

The **Short Acculturation Scale for Hispanics** (SASH; Marin, Sabogal, VanOss Marin, Otero-Sabogal, & Perez-Stable, 1987) includes 12 items with three scales: that measure language use, media, and ethnic social relations. In addition, there is a 4-item short version (BASH; Norris, Ford, & Bova, 1996), rated on a 5-point bipolar scale from "only Spanish" to "only English."

The **Latino Youth Acculturation Scale** (LYAS; Pillen & Hoewing-Roberson, 1992) measures acculturation of family identity, self/peer identity, customs, and food.

The **Acculturation Rating Scale for Mexican Americans** (ARSMA; Cúeller, Harris, & Jasso, 1980) was designed to examine the acculturation of Mexican students at the college level. Raters use a 5-point continuum from Mexican to Anglo orientation. It has 20 items that measure preference for language, cultural values, and traditions. It recognizes that individuals can adhere to their culture of origin while adopting aspects of a new culture and recognizes four acculturation patterns: integration, assimilation, separation, and marginalization. A 48-item revision (ARSMA-II) was published in 1995 (Cúeller, Arnold, & Maldonado). This version measures language use, ethnic identity, ethnic interaction, and acceptance of ideas/beliefs/practices of native and new cultures using two scales: Assimilation and Integration, and Marginalization.

The **Acculturation Quick Screen** (AQS; Collier, 2000), for ages 6 to 20 years, measures levels of acculturation and "culture shock" and is not specific to any one language or ethnic group. It can also be used to monitor acculturation over time.

The **Bidimensional Acculturation Scale** (BAS; Marin & Gamba, 1996) is a brief measure centered on language that features 24 questions in an English version and the same 24 questions written in Spanish. It covers language use, language proficiency, and electronic media preferences.

The **Short Acculturation Scale for Hispanic Youth** (SASH-Y; Barona & Miller, 1994) is a 12-question survey that measures three factors: personal language used, external language used, and ethnic social relations.

Development of the Language Acculturation Meter

Existing acculturation forms fail to combine background information and educational history with questions about language acculturation. Thus, the rationale for developing the Language Acculturation Meter was to combine information about the examinee's country of origin as well as their educational history and amount of exposure to U.S. culture, use of Spanish versus English language in various situations, and self-identified English comprehension in various scenarios. The form was designed to be brief and adaptable across the age range from young childhood to older adults. It uses Spanish as the native language, but may be easily adapted for other languages by substituting another language for "Spanish." Use of a multiple-choice check box format for education history and a nine-point sliding scale for language usage and English comprehension allow the individual to provide varying gradients of response.

Table 1
Comparison of Language Acculturation Scales

Measure	Publication details	Age/grade range	Demographic details	# of items	Content
Language Acculturation Meter	Trujillo et al. (2020)	Kindergarten to graduate school; adults	Country of origin; age of arrival in U.S.; number of years in U.S. or Canada. Grid with grades (Kindergarten-graduate school) taught in Spanish and/or English	17	Eleven items rate everyday language (Spanish and/or English) use. Six items assess self-identified English comprehension.
Short Acculturation Scale for Hispanics (SASH)	Marín, Sabogal, VanOss Marin, Otero-Sabogal, & Perez-Stable (1987)	Reliability and validity data from study on women ages 20–79 years	Does not measure	12	Five items assess language usage; three items assess media preference; four items assess social relations.
Latino Youth Acculturation Scale (LYAS)	Pillen & Hoewing-Roberson (1992)	Grades 5–8	Ancestry; place of parents' birth	23	Eleven items assess everyday language (Spanish and/or English) usage. Twelve items assess cultural aspects.
Short Acculturation Scale for Hispanic Youth (SASH-Y)	Barona & Miller (1994)	Grades 5–8	Does not measure	12	Five items assess everyday language use; three items assess media preference; four items assess ethnic social relations.
Acculturation Rating Scale for Mexican Americans II (ARSMA-II)	Cúeller, Arnold, & Maldonado (1995)	Not specified	Gender, age, date of birth, marital status, education, generational information	48	Thirty items rate language use and preference, identity, and culture. Eighteen items measure concepts of marginality and separation.
Brief Acculturation Scale for Hispanics (BASH)	Norris, Ford, & Bova (1996)	Ages 15–24 years	Does not measure	4	Four items assess everyday language use.

The Language Acculturation Meter should be completed in an interview format to gain the maximum amount of information from the individual.

Spanish Translation of the Language Acculturation Meter

The Language Acculturation Meter form is available in English and Spanish. The content on the English version was translated into Spanish, specifically Spanish for the U.S., by an International Organization for Standardization (ISO)-certified translation company specializing in the translation and adaptation of psychometric tests and assessments. Items were then back translated into English by an expert unfamiliar with the English version of the form. PAR staff then reviewed this back translation to ensure that translated statements matched the purpose and intent of the content on the original measure. Additionally, items were reviewed extensively throughout the process by a professional Spanish-speaking copy editor.

Administration Considerations

The form provides an interpretive framework for evaluating the effect of cultural and linguistic differences on the validity of test performance (difference versus disorder). Gathering this information about an individual sets the stage for conducting an ecologically valid assessment.

The Language Acculturation Meter should be completed in an interview format to gain the maximum amount of information from the individual. The goal is to increase the examiner's awareness of the examinee's level of English-language acculturation, which in turn should provide a framework for conceptualizing the evaluation and interpreting results.

The Language Acculturation Meter has four sections: Background information, including origins and amount of time in the U.S.; an Education History section (Part 1), which documents the number of years of English and/or Spanish instruction; an Everyday Language Usage section (Part 2), which gauges **how often** examinees speak Spanish or English in common situations; and an English Comprehension section (Part 3), in which examinees rate **how well** they understand English in various settings. Each section is described below.

Background Information

In addition to basic demographic information, the background information section includes these three queries for immigrants (see Figure 1): *Country of origin*, *Age of arrival in the U.S.*, and *Number of years in the U.S. or Canada*, which provide the examiner with the following information:

Country of origin—Informs probable dialect and provides information about immigration factors (e.g., an individual coming from Puerto Rico, a U.S. territory, likely has greater cultural ties to the U.S. than someone from El Salvador, where political strife has warranted seeking asylum in the U.S.).

Age of arrival in the U.S.—Provides information about language acquisition. Immigrating as a young child vs. a teenager vs. an adult will have different impacts.

LANGUAGE ACCULTURATION METER™

Sue Madden Trujillo, MS, Jennifer A. Greene, PhD, and Alicia Carrillo, BS

Acculturation is the process of adapting to the prevailing social, linguistic, psychological, and cultural norms while balancing original cultural markers from the society of origin.

Name_____ Gender identity_____ Age_____ Date_____

Grade/school (if applicable)_____ Occupation (if applicable)_____

Level of comfort and amount of conversational English used_____

Country of origin _____ Age of arrival in the U.S. _____ Number of years: months in the U.S./Canada Years _____: Months _____

Additional notes:

Figure 1. Background information section of the Language Acculturation Meter.

It is important to note that although a child may be born in the U.S., they may only speak Spanish or minimal English until enrolled in formal education.

Number of years in the U.S. or Canada—Provides the number of years exposed to the English language.

Part 1: Education History

The Education History section documents the number of years of formal education in Spanish and/or English and addresses the amount of exposure to English-language instruction. For each grade level, the examinee marks if they were taught in Spanish, had bilingual education in the U.S., were taught in English outside the U.S., or were taught in English-only classes in the U.S. If enrolled in bilingual instruction in the U.S., the type of instruction received (e.g., dual immersion, sheltered, etc.) should be chronicled in the "Additional notes" section of the form. If the individual learned to read in Spanish before coming to the U.S., then English literacy is likely to progress more rapidly. If the individual has been exposed to a third language or did not attend school at all for some period of time, it may be noted here. Documenting the number of years of education taught in Spanish, the number of years of English language learning (e.g., ELL), and the number of years of English-only instruction provides the examiner with information that helps determine the examinee's probable level of English-language proficiency. See Figure 2.

Part 2: Everyday Language Usage

Part 2, Everyday Language Usage, features 11 statements rated on a 9-point sliding scale that provide insight into the language used in the home, language spoken with friends, language in social situations, and internalized language when dreaming and thinking. Examiners should write "N/A" for items that do not apply. If there are any unusual circumstances, like a child who speaks English with their parents but only Spanish with a grandparent, these should be noted on the form. Answers to these questions also give an indication about the level of cultural immersion and degree of exposure to U.S. culture. See Figure 3.

Part 1: Education History

Mark each grade in school that the examinee was taught in Spanish and/or English. If they were taught multiple ways during one school year, **mark more than one column for that grade**. If they did not attend a grade, mark the last column.

	Taught in Spanish	Bilingual education (ELL) in the U.S.	Taught in English outside the U.S.	Taught in English-only classes in the U.S.	Did not attend school this grade
Kindergarten	☐	☐	☐	☐	☐
1st grade	☐	☐	☐	☐	☐
2nd grade	☐	☐	☐	☐	☐
3rd grade	☐	☐	☐	☐	☐
4th grade	☐	☐	☐	☐	☐
5th grade	☐	☐	☐	☐	☐
6th grade	☐	☐	☐	☐	☐
7th grade	☐	☐	☐	☐	☐
8th grade	☐	☐	☐	☐	☐
9th grade	☐	☐	☐	☐	☐
10th grade	☐	☐	☐	☐	☐
11th grade	☐	☐	☐	☐	☐
12th grade	☐	☐	☐	☐	☐
College	☐	☐	☐	☐	☐
Graduate school	☐	☐	☐	☐	☐

Figure 2. Education History section (Part 1) of the Language Acculturation Meter.

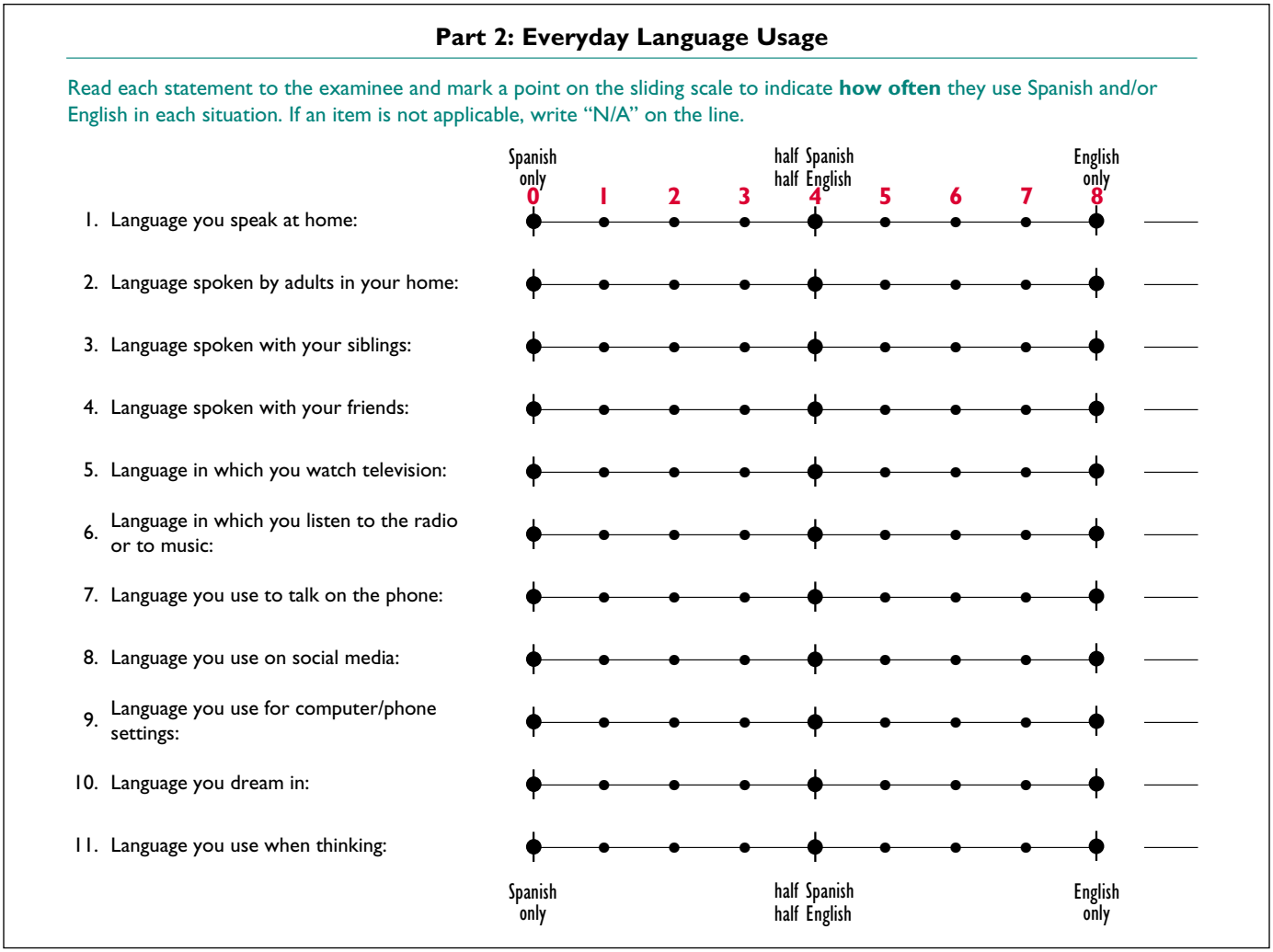


Figure 3. Everyday Language Usage section (Part 2) of the Language Acculturation Meter. *Note: The red numbers inserted here do not appear on the Language Acculturation Meter Form and are not seen by the examinee.*

Each item in the Everyday Language Usage section is rated on a sliding scale. There are no values designated on the form; however, each point on the scale may be assigned a value: 0 for "Spanish only," 4 for "half Spanish/half English," and 8 for "English only"—and all points in between covering values 0 to 8 (shown in red in Figure 3. These numbers do not appear on the Language Acculturation Meter Form and are not seen by the examinee). Write the value for each item on the line provided. To average the scores, total the values and divide by the number of items answered. Averages greater than 4 indicate that English is used more than Spanish.

Part 3: English Comprehension

Part 3 of the Language Acculturation Meter addresses the individual's self-identified comprehension of English in various scenarios. These questions provide insight into how well the examinee comprehends spoken English in daily interactions and can be useful in determining the examinee's English-language proficiency. See Figure 4.

Each item in the English Comprehension section is rated on a sliding scale. There are no values designated on the form; however, each point on the scale may be assigned a value: 0 for "Don't understand," 4 for "Sometimes understand," and 8 for "Fully understand"—and all points in between, covering values 0 to 8 (shown in red in Figure 4; these numbers do not appear on the Language Acculturation Meter Form and are not seen by the examinee). Write the value for each item on the line provided. Write "N/A" on the line for items that do not apply. To average the scores, total the values and divide by the number of questions answered. Averages that are closer to 8 indicate good English comprehension.

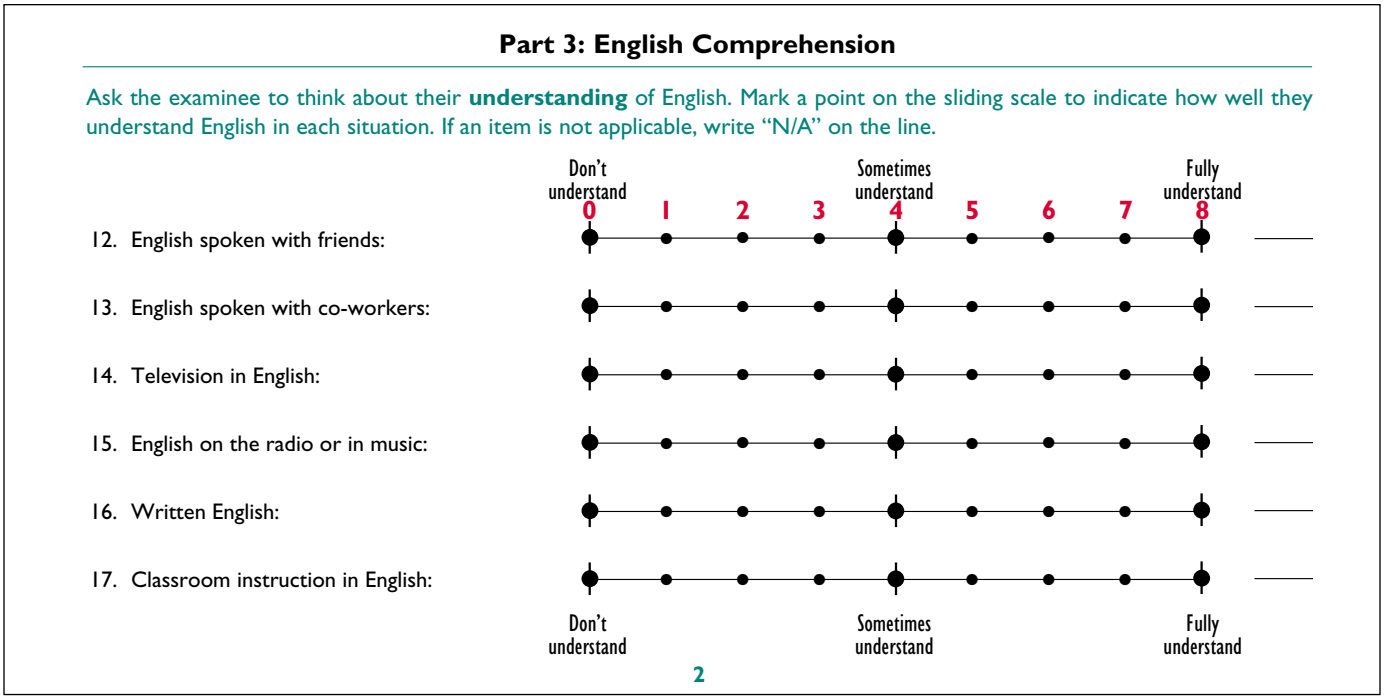


Figure 4. English Comprehension section (Part 3) of the Language Acculturation Meter. *Note: The red numbers inserted here do not appear on the Language Acculturation Meter Form and are not seen by the examinee.*

Guidelines for Using the Language Acculturation Meter

The Language Acculturation Meter is designed to be completed in interview format, which provides a way to gather relevant information and open conversation about specific areas of concern. It was intended to be administered in English; however, a Spanish form has also been developed, which may be given to the examinee to complete independently if the examiner is not bilingual and there is a language barrier. The Language Acculturation Meter may be administered to children as young as 5 years of age, to older adults, and to all ages in between. For young children, the Education History section should be obtained from a parent or guardian.

Scoring and Interpretation

Items in the Everyday Language Usage (Part 2) and English Comprehension (Part 3) sections are rated on a sliding scale, providing information about the degree of language acculturation from Spanish to English. Items on Everyday Language Usage (Part 2) section are rated from 0 to 8: 0 for "Spanish only," 4 for "half-Spanish/half-English," and 8 for "English only." Items in the English Comprehension (Part 3) section are rated from 0 to 8: 0 for "Don't understand," 4 for "Sometimes understand," and 8 for "Fully understand." The red numbers are inserted here as an example; they are not seen by the examinee and do not appear on the form. The items from these two parts are grouped into three clusters as shown in Figure 5: Home Environment, Social Interaction, and Academic/Cognitive. Examiners should mark "N/A" for items that do not apply to the examinee, such as Item 3, "Language spoken with your siblings," for examinees who do not have siblings. **However, if more than 50% of scale/cluster items are missing, Language Acculturation Meter scale scores should not be interpreted.** Item-level analysis is still possible, but caution should be taken when interpreting the scores.

The Language Acculturation Meter Scoring Sheet on page 3 of the form provides detailed instructions for scoring the Everyday Language Usage and English Comprehension scales and the three clusters. The scoring sheet on the Spanish form remains in English, so examiners who do not speak Spanish can easily score and interpret the instrument. See Figures 6 and 7. To score the Language Acculturation Meter, first assign the appropriate score (0–8) for each item in the space to the right of each statement on page 2. Next, transfer the score for each item to the appropriate spaces on the Scoring Sheet. Items are present in more than one scale/cluster; make sure to write the item score in all applicable spaces on each row. Write "N/A" for any items that were not applicable to the examinee. For the Total score and each scale/cluster, add the scores down the column and write the sum in the Raw score space.

Item	Cluster	Cluster
Part 2		
1. Language you speak at home:	Home Environment	
2. Language spoken by adults in your home:	Home Environment	
3. Language spoken with your siblings:	Home Environment	
4. Language spoken with your friends:	Social Interaction	
5. Language in which you watch television:	Home Environment	
6. Language in which you listen to the radio or to music:	Social Interaction	Academic/Cognitive
7. Language you use to talk on the phone:	Social Interaction	
8. Language you use on social media:	Social Interaction	Academic/Cognitive
9. Language you use for computer/phone settings:	Academic/Cognitive	
10. Language you dream in:	Academic/Cognitive	
11. Language you use when thinking:	Academic/Cognitive	
Part 3		
12. English spoken with friends:	Social Interaction	
13. English spoken with co-workers:	Social Interaction	
14. Television in English:	Home Environment	
15. English on the radio or in music:	Academic/Cognitive	
16. Written English:	Academic/Cognitive	
17. Classroom instruction in English	Academic/Cognitive	

Figure 5. Language Acculturation Meter items and clusters.

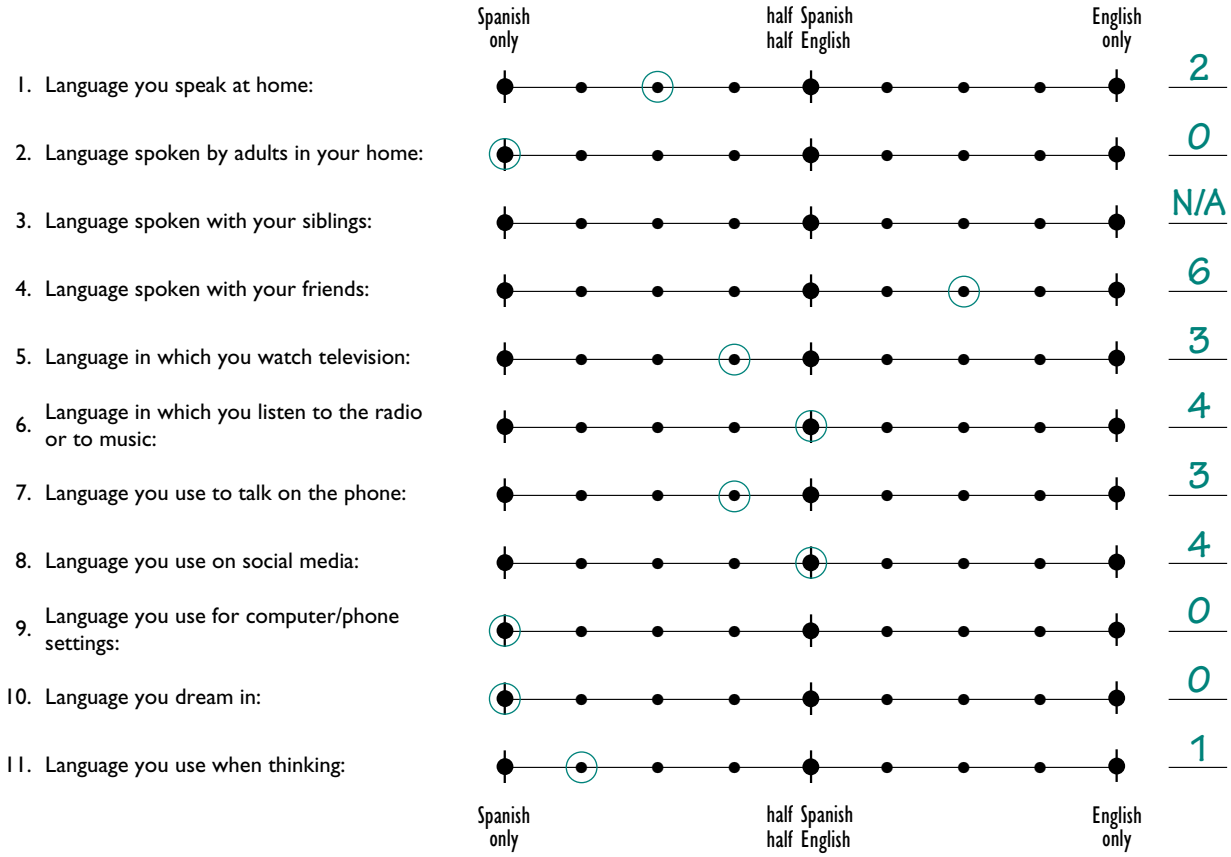
Count the number of items completed for each scale/cluster and record in the "# items completed" row. Divide the raw score by the number of items completed to obtain the raw score mean and round to the nearest whole number (e.g., 4.5 = 5). Find the raw score mean for each scale/cluster on the appropriate percentile table (see Appendix of the Language Acculturation Meter white paper), locate the percentile underneath the appropriate scale/cluster, and record in the corresponding column.

Using the percentile norms tables allows you to interpret the level of endorsement against similar individuals. Examiners may use the Full Sample percentile table or compare against individuals who have spent a similar amount of time in the U.S. (U.S. Natives or Non-U.S. Natives who have spent 0–5 Years, 6–19 Years, or 20+ Years in the U.S.). For example, an examinee who has been in the U.S. for less than 5 years with a raw score mean of 6 on the Everyday Language Usage scale endorses use of the English language more than 91% of similar individuals in the sample who had been in the U.S. for less than 5 years.

Comparing the ratings of items in the three clusters can also be viewed qualitatively. For example, individuals with Social Interaction cluster mean scores of 4 or greater may have attained BICS language proficiency (Cummins, 1979). If the individual also shows values greater than 4 on most items on the Academic/Cognitive cluster, then the individual may have achieved CALP language proficiency (Cummins, 2008) and assessment in English is likely appropriate. This information is useful when determining the most appropriate assessment to administer—a decision that is ultimately up to the professional administering the test. Home environment scores may be less significant in choosing Spanish-language versus English-language assessment materials.

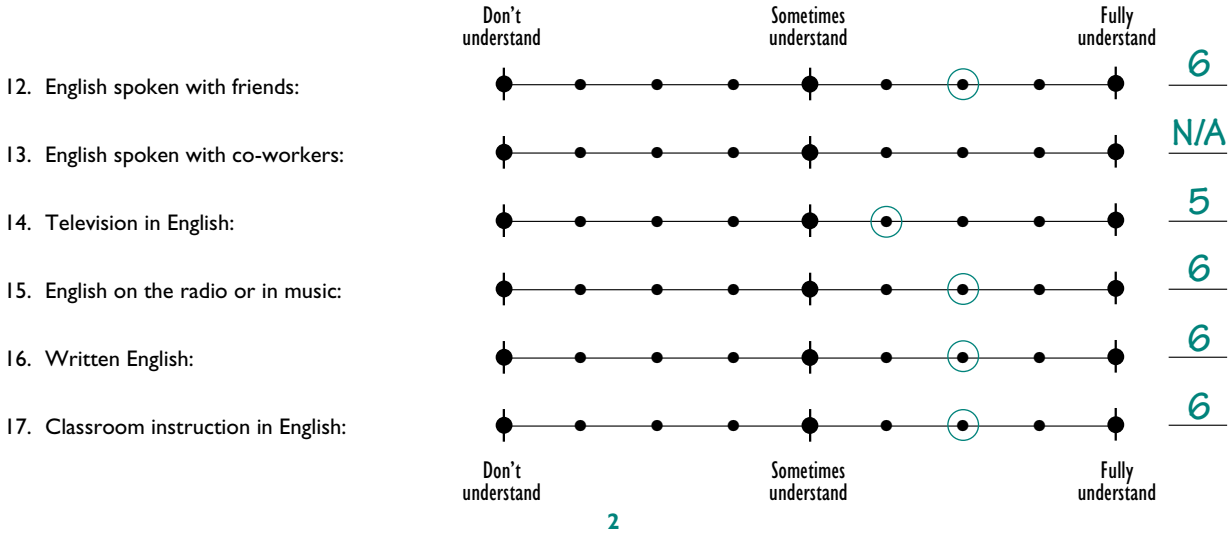
Part 2: Everyday Language Usage

Read each statement to the examinee and mark a point on the sliding scale to indicate **how often** they use Spanish and/or English in each situation. If an item is not applicable, write "N/A" on the line.



Part 3: English Comprehension

Ask the examinee to think about their **understanding** of English. Mark a point on the sliding scale to indicate how well they understand English in each situation. If an item is not applicable, write "N/A" on the line.



2

Figure 6. Example of completed Everyday Language Usage section (Part 2) and English Comprehension section (Part 3) on the Language Acculturation Meter.

Language Acculturation Meter Scoring Sheet

Scoring instructions:

1. Transfer the score for each item (0–8) from the Language Acculturation Meter into the Total score column then into the appropriate spaces across the item's row. Items are present in more than one scale/cluster; make sure to write the item score in all applicable (unshaded) spaces on each row.
2. Write "N/A" for any items that were not applicable to the examinee.
3. For the Total score and for each scale/cluster column, add the scores down the column and write the sum in the Raw score space.
4. Count the number of items completed for the Total score and for each scale/cluster column and write the number of items completed in each column.
5. Divide the totals in each column by the number of items completed (i.e., items that were not endorsed as "N/A" or skipped) on that scale/cluster to obtain by the number of items completed to obtain the raw score mean. Round each raw score mean to the nearest whole number (e.g., 4.5 = 5).
6. Find the raw score mean for each scale/cluster in the appropriate percentile table (see Language Acculturation Meter white paper appendix), locate the percentile underneath the appropriate scale/cluster, and record that value in the appropriate column in the Percentile row. Write the name of the percentile table used in the appropriate space below the table.

Scale/Cluster

Item	Total score	Everyday Language Usage	English Compre-hension	Home Environment	Social Interaction	Academic/ Cognitive
1.	2	2		2		
2.	0	0		0		
3.	N/A	N/A		N/A		
4.	6	6			6	
5.	3	3		3		
6.	4	4			4	4
7.	3	3			3	
8.	4	4			4	4
9.	0	0				0
10.	0	0				0
11.	1	1				1
12.	6		6		6	
13.	N/A		N/A		N/A	
14.	5		5	5		
15.	6		6			6
16.	6		6			6
17.	6		6			6
Raw score	52	23	29	10	23	27
# items completed	÷ 15	÷ 10	÷ 5	÷ 4	÷ 5	÷ 8
Raw score mean	= 3	= 2	= 6	= 3	= 5	= 3
Percentile	19	19	44	36	57	18

Percentile table used: Full sample

3

Figure 7. Example of completed Language Acculturation Meter Scoring Sheet.

Development of Normative Data for the Language Acculturation Meter

Normative Sample

The Language Acculturation Meter was completed by 360 Spanish-speaking individuals between the ages of 5 and 84 years living in the United States. Participants completed an online version of the form via SurveyMonkey.

Demographics of the sample were examined, specifically country of origin, age of immigration, and number of years residing in the United States. Most participants were women (58.3%), with an average age of 29 years. 41.1% of participants were born in the United States. Most participants not born in the U.S. were from Mexico (22.5%), Puerto Rico (16.4%), and Cuba (5.3%). On average, non-U.S. natives immigrated to the U.S. at the age of 20 years. Regarding the amount of time that non-U.S. natives had spent residing in the U.S., 31% of participants immigrated to the U.S. in the past 5 years, 36% immigrated in the past 6–19 years, and 33% immigrated 20 or more years ago. See Table 2.

Participants' education history data from Part 1 of the form were also examined. Participants reported more years of academic instruction in Spanish than bilingual instruction or instruction in English. See Table 3.

Item Analysis

The performance of items on each scale/cluster were analyzed via exploratory factor analysis (EFA). A principal axis factoring EFA with promax rotation revealed two factors with eigenvalues greater than 1, with Factor 1 corresponding to the English Comprehension scale and Factor 2 corresponding to the Everyday Language Usage scale. Two items were cross-loaded but retained on their original scales for content coverage. That is, all items generally fit on the scale that they were intended to.

Reliability

Reliability refers to an instrument's stability, consistency, and accuracy. Internal consistency, a form of reliability, was assessed through item-total correlations and Cronbach's alpha (α). If an instrument is internally consistent, this means that the items on the instrument are measuring the same underlying construct. For each scale, all item-total correlations were appropriate (>0.40), indicating very good discrimination (see Table 4).

Cronbach's alphas for each scale/cluster by sample group (0–5 years in the U.S., 6–19 years, 20+ years, U.S. native) are presented in Table 5. Alpha reliabilities ranged from .81 to .91 for the clusters and from .94 to .96 for the scales. These values indicate very good reliability for the scales and clusters on the Language Acculturation Meter.

Percentile Norms

The raw score mean of each scale was computed and percentiles were generated to facilitate interpretation of the scale/clusters. Percentiles for the full sample as well as for U.S. natives and non-U.S. natives who have lived in the U.S. 0–5 years, 6–19 years, or 20+ years are presented in the Appendix of this white paper. Using the percentile norms tables allows you to interpret the level of endorsement of a particular client against similar individuals.

Table 2
Demographics of the Language Acculturation Meter Normative Sample

Characteristic		
N	360	
Sex (%)		
Male	41.7	
Female	58.3	
	M	***SD***
Age (years)	28.57	20.54
Range	5–84 years	
Country of origin (%)		
U.S. native (excluding Puerto Rico)	41.1	
Mexico	22.5	
Puerto Rico	16.4	
Cuba	5.3	
Venezuela	3.1	
Other	11.7	
Age of arrival in U.S.*	19.54	16.52
Years in U.S. (%)*		
0–5 years	31.1	
6–19 years	35.8	
20+ years	33	

*Does not include U.S. natives.

Table 3
Educational History of the Language Acculturation Meter Normative Sample

Educational History	*M*	*SD*
Years of instruction in Spanish	8.59	5.37
Years of bilingual instruction	5.38	4.47
Years of instruction in English (outside the U.S.)	5.65	4.54
Years of instruction in English (inside the U.S.)	6.09	4.61

N = 360.

Table 4
Item-Total Correlations and Alpha Reliabilities for the Full Language Acculturation Meter Normative Sample

		Scale/Cluster				
Item	Total	Language Preference	English Understanding	Home Environment	Social Interaction	Academic/ Cognitive
1. Language you speak at home	.62	.75		.72		
2. Language spoken by adults in your home	.43	.56		.61		
3. Language spoken with your siblings	.68	.74		.64		
4. Language spoken with your friends	.82	.77			.77	
5. Language in which you watch television	.71	.72		.59		
6. Language in which you listen to the radio/music	.58	.64			.54	.61
7. Language you use to talk on the phone	.77	.78			.76	
8. Language you use on social media	.83	.81			.78	.79
9. Language you use for computer/phone settings	.76	.68				.76
10. Language you dream in	.68	.80				.69
11. Language you use when thinking	.72	.81				.72
12. English spoken with friends	.75		.90		.72	
13. English spoken with co-workers	.69		.85		.66	
14. Television in English	.75		.90	.45		
15. English on the radio or in music	.79		.92			.70
16. Written English	.78		.89			.67
17. Classroom instruction in English	.75		.84			.70
Alphas	.95	.94	.96	.81	.89	.91

N = 360.

Table 5
Alpha Reliabilities for Language Acculturation Meter Normative Sample Groups

Scale/Cluster	0–5 years	6–19 years	20+ years	U.S. native	Full sample
Total Score	.94	.95	.94	.93	.95
Language preference	.97	.95	.90	.87	.94
English understanding	.96	.94	.98	.94	.96
Home Environment	.89	.87	.72	.63	.81
Social Interaction	.91	.87	.89	.85	.89
Academic/Cognitive	.95	.91	.90	.78	.91

Conclusion

The goal of the Language Acculturation Meter is to reduce bias and increase fairness in the assessment of Spanish-speaking English language learners. Gathering information about an examinee's education history, everyday language use, and self-identified English comprehension empowers examiners to take an ecologically sensitive approach to an assessment. The information obtained from this form will help examiners choose appropriate assessments, interpret assessment results, and determine appropriate interventions and programming.

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Appendix

Full Sample (*n* = 360)

Raw score mean	Scale/Cluster					
	Total score	Everyday Language Usage	English Compre-hension	Home Environment	Social Interaction	Academic/ Cognitive
8	>99	>99	>99	>99	>99	>99
7	95	97	62	97	93	87
6	84	89	44	93	81	73
5	66	76	28	82	57	53
4	35	57	18	58	29	31
3	19	36	9	36	19	18
2	11	19	6	18	12	10
1	7	11	4	8	7	6
0	2	6	2	3	3	2
M	4.81	4.10	6.28	4.05	5.01	5.20
SD	1.76	1.95	1.98	1.75	1.88	1.96

0–5 Years in U.S. (*n* = 66)

Raw score mean	Scale/Cluster					
	Total score	Everyday Language Usage	English Compre-hension	Home Environment	Social Interaction	Academic/ Cognitive
8	>99	>99	>99	>99	>99	>99
7	92	95	79	97	89	82
6	91	91	68	95	89	76
5	89	88	56	88	80	54
4	64	83	41	80	56	32
3	45	62	24	61	39	20
2	29	41	18	39	27	11
1	21	27	9	24	18	5
0	3	20	3	11	8	3
M	3.65	2.92	5.02	3.05	3.92	3.94
SD	2.05	2.19	2.34	1.97	2.24	2.18

6–19 Years in U.S. (*n* = 76)

Raw score mean	Scale/Cluster					
	Total score	Everyday Language Usage	English Compre-hension	Home Environment	Social Interaction	Academic/ Cognitive
8	>99	>99	>99	>99	>99	>99
7	86	88	62	88	84	82
6	79	83	39	86	78	76
5	68	75	20	75	62	54
4	37	63	12	58	28	32
3	20	41	9	37	20	20
2	11	20	5	17	12	11
1	4	11	4	7	5	5
0	3	5	<4	3	3	3
M	4.93	4.14	6.45	4.30	5.09	5.18
SD	1.93	2.18	1.94	2.02	1.99	2.04

20+ Years in U.S. (*n* = 70)

Raw score mean	Scale/Cluster					
	Total score	Everyday Language Usage	English Compre-hension	Home Environment	Social Interaction	Academic/ Cognitive
8	>99	>99	>99	>99	>99	>99
7	>99	>99	59	>99	>99	>99
6	99	>99	39	89	89	89
5	83	94	31	67	67	73
4	44	73	20	34	34	37
3	20	53	11	21	21	21
2	14	23	9	14	14	11
1	10	13	7	11	11	10
0	3	6	3	3	3	4
M	4.27	3.39	6.21	3.56	4.60	4.54
SD	1.56	1.54	2.22	1.49	1.82	1.77

U.S. Native (*n* = 148)

Raw score mean	Scale/Cluster					
	Total score	Everyday Language Usage	English Compre-hension	Home Environment	Social Interaction	Academic/ Cognitive
8	>99	>99	>99	>99	>99	>99
7	99	>99	55	>99	95	82
6	78	86	37	>99	75	57
5	45	62	18	93	39	32
4	17	34	9	70	16	15
3	6	14	1	46	8	4
2	2	7	<1	23	3	1
1	<2	2	<1	9	1	<1
0	<2	<2	<1	4	<1	<1
M	5.53	4.94	6.79	4.60	5.64	6.09
SD	1.20	1.43	1.37	1.32	1.37	1.42

Sue Madden Trujillo, MS

Clinical Assessment Developer
strujillo@parinc.com
1.800.331.8378

Sue Madden Trujillo has worked for PAR since 2005. In her first role, she managed all data collection efforts, including those for gold star products like the BRIEF2, the RIAS-2, the EDDT, and the Feifer product line. Currently, she is a clinical assessment developer, combining a data collection workload with product development. As a former school psychologist in Connecticut, Sue brings firsthand knowledge of child development, assessment needs, and test UX/UI to the development of user-friendly assessment products.

Jennifer Greene, PhD

Coordinator–Digital Product Design & Psychometrics
jgreene@parinc.com
1.800.331.8378

Jennifer Greene, PhD, works in Research and Development at PAR. She holds a PhD in Measurement and Evaluation from the University of South Florida. In her role at PAR, she is responsible for conducting statistical analyses and norming assessments, as well as developing digital assessments.

Alicia Carrillo, BS

Research Assistant
acarrillo@parinc.com
1.800.331.8378

Alicia Carrillo is a research assistant in the Research and Development department at PAR. In her role, she designs and manages project datasets; performs statistical analyses to ensure reliable and valid data; assists in the development of white papers, training materials, and presentations; and performs quality checks of data and editorial reviews of product components. She is also the education director for Theatre eXceptional, which provides performance opportunities for adults with disabilities. She holds a bachelor's degree in psychology from the University of Tampa.

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