

***La Prueba Maya*, a Test for Bilingual Teachers of Indigenous Language-Speaking Students**

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Abstract

La Prueba Maya is a new computer-based diagnostic assessment that was developed to measure the Maya proficiency of Mexican teachers. To assess Mayan fluency in reading, listening, speaking, and writing, *La Prueba Maya*'s battery of tests was taken by 2,507 preschool and primary school teachers in Mexico. Results were used to determine proficiency in Maya as a second language for teachers wishing to work with indigenous Maya-speaking children in Yucatán, Campeche, and Quintana Roo. We ground this work in the theories and research from the fields of anthropology, education, linguistics, second language acquisition, the unique features of indigenous languages, and best practices in language assessment. The results of the tests indicate that the listening test was the easiest for test takers and the written test was the hardest. There are challenges and limitations of testing teachers of indigenous children, particularly when the teachers, in most cases, are new to basic and general testing procedures and digital media. Results of the test pilot showed teachers' scores were higher in listening and speaking. If Mexico wants to protect heritage languages, then its teachers must be given opportunities to attend to their own competencies in reading and writing to pass the indigenous languages to the next generation.

La Prueba Maya: Testing Bilingual Teachers of Indigenous Language-Speaking Students

La Prueba Maya is a new computer-based assessment developed to measure the ability of Mexican teachers to read, write, speak, and listen in Maya. This research study is an examination of the complex interaction between linguists with expertise in indigenous languages, Mexican professors with knowledge of language and intelligence testing, American test development experts, and a federal Mexican policy directive to honor and protect indigenous languages by providing qualified teachers, who are fluent in the indigenous Mayan language, to the Yucatán. This work is designed to contribute to the literature on the policy and politics of indigenous language testing, and it describes the results of our study and the role of culture and language in the assessment of bilingual teachers of indigenous students, as well as some challenges that can emerge when developing tests to measure indigenous language skills.

Background

The Mexican Yucatán Peninsula is home to North America's largest indigenous population, the Maya. Mayan history in the Yucatán Peninsula can be traced to around 2600 B.C., and Mayan culture rose to prominence around 250 A.D. in present-day southern Mexico, Guatemala, western Honduras, El Salvador, and northern Belize. Today there are about 750,000 people who speak Maya in Mexico (Villar, 2005), and tourists from around the world flock to the region to visit archaeological evidence of the lives of the Maya. According to the Mexican census, the states that comprise the Yucatán peninsula have the highest percentage of indigenous language speakers in Mexico (Villar, 2005); as Table 1 shows:

Table 1

Indigenous population of Mexico's Yucatan Peninsula

State in Mexico	Indigenous population (N)	Percent of total state population \geq 5 years old who speak an indigenous language	Indigenous language spoken	Breakdown of indigenous populations
Campeche	93,765	15.50%	Maya	80.90%
			Chol	9.40%
			Kanjobal	2.00%
			Tzeltal	1.80%
			Other	5.40%
Chiapas	809,592	24.60%	Tzotzil	36.00%
			Tzeltal	34.40%
			Chol	17.40%
			Zoque	5.10%
			Tojolabal	4.70%
			Chuj	0.20%
			Kanjobales	0.70%
			Mame	0.70%
Other	0.80%			
Yucatán	549,532	37.30%	Maya	99.60%
			Other	0.40%
Quintana Roo	173,592	23%	Maya	94.20%
			Kanjobal	0.70%
			Nahuatl	0.70%
			Tzotzil	0.70%
			Other	3.30%
Tabasco	62,027	3.70%	Chontal de Tabasco	61.80%
			Chol	16.20%
			Tzeltal	3.10%
			Tzotzil	1.50%
			Other	8.30%

From Mexico Census 2000 (Villar, 2005).

Based on statistical data from the Conteo de Población y Vivienda [Count of Population and Housing] in Mexico, 92.9% of the people who speak an indigenous language also speak Spanish.

Only 5.5% of the population is monolingual. This is not surprising, given that the language of instruction in school is Spanish across the country.

The Spaniards came to Mexico in 1521, but it was not until 1814, when the Mexican constitution was adopted, that the political decision was made to use Spanish as the official national language for government and administration. However, most indigenous people learned Spanish as a result of their work outside of their communities rather than in school (Cifuentes, 1992). Historically, education for Indian children in rural areas has been grounded on the “assumption that indigenous languages and cultures were ‘primitive’ and inferior” (Drake, 1978).

Mayan Literacy

Archeological evidence, historical record, and the accounts of the Mesoamerican people point to early writing in Mexico in the Olmec period in Oaxaca at 600 B.C. (King, 1994, p. 24). In fact, the ancient Maya writing system is considered “one of the most significant achievements of pre-Columbian peoples” (Sharer & Traxler, 2006, p. 125). Mayan pre-Hispanic notational systems used a logosyllabic system in which pictorial representations depicted entire words or symbolic pairings. In her anthropological analysis of literacy in Mexican indigenous cultures, King (1994) writes that pre-Hispanic Maya writing was both pictographic and ideographic and “not intended to be reduced to speech in the same sense as phonetic writing,” (p. 35). Furthermore, written materials were meant for the shamans and spiritually enlightened ones, and not for the common people.

Despite this tradition, the current written form of Mayan emerged in the 16th century, when Spanish friars phonetically transliterated Mayan using the Spanish alphabet (Brody, 2004). The friars transcribed significant Maya documents using this alphabet. Ancona (1978, p. 17) shows examples of the Mayan script and the alphabetic script used for translations from Spanish. Furthermore, the Maya took an active role in this production, adapting pre-Hispanic codical knowledge as well as information from European sources translated into Maya and presented in the Latin alphabet (Bricker & Miram, 2002) via the books of the *Chilam Balam*, almanacs written in Maya, Spanish, and Latin in the Latin alphabet to depict beliefs on astrology, medicine, prophecy, the calendar system, and the origin and history of the Mayan peoples, as well as information from European almanacs (Ancona, 1978). The alphabetic script then became an important tool for communication between the Maya and the Spanish authorities in Mérida, the Yucatecan capital. Rather than learning Spanish, the Mayans taught the colonizers Maya. They transcribed their own religious texts into a phonetic alphabet that could be read by the colonizers, preserving a “virtual treasure trove of information reflecting the intellectual concerns of the colonial Maya scribe,” (Bricker & Miram, 2002, p. 3). Bilingual individuals then could act as “language and culture brokers for their communities,” (England, 1998).

In this way, Maya language and culture has been maintained in the southeastern peninsula of Mexico and has served as a means to preserve both regional and ethnic identity. Today approximately 1.2 million people living in the Mexican Yucatán peninsula speak Maya. The current written form of the Maya language is produced by writing words according to the 23 different sounds that can be identified in the spoken Mayan language.

Policy Initiatives in Support of Vulnerable Populations

Testing indigenous teachers' Mayan proficiency was a decision made by the federal agency that oversees indigenous education in Mexico, Dirección General de Educación Indígena, [General Administration of Indigenous Education] and the Secretaría de Educación [Secretary of Education] of the three states that make up the Yucatán Peninsula (Yucatán, Campeche and Quintana Roo). The resulting test of Maya literacy, or *La Prueba Maya*, is a computer-based assessment of Maya reading, writing, listening, and speaking skills that was administered in the spring of 2009 to preschool and primary school teachers in the Mexican states of Yucatán, Campeche, and Quintana Roo. Because this policy has the support of the federal Ministry of Education, it has not been subjected to the same kinds of limitations of other testing efforts initiated by indigenous groups, such as a lack of technical expertise (McGroarty, Beck, & Butler, 1995). In fact, substantial resources were devoted to this project.

Why Maya?

According to the 2000 national census, Maya is the most common indigenous language spoken in Campeche, Yucatán, and Quintana Roo, with 80.9% of Campeche residents and 99.6% of Yucatán residents five years and older who report speaking an indigenous language (Villar, 2005), although census data on writing and reading indigenous languages are not collected. Hornberger and Skilton-Sylvester (2000) describe a continuum model of biliteracy and the complex interrelationships between and among communities that use multiple languages for a variety of educational purposes. Their work on indigenous teacher education programs in the Amazon revealed a power structure between the languages that resulted in the prevalence of an oral first language, but a lack of minority-authored texts in written form of the indigenous language. A similar phenomenon exists in the Yucatán, where the oral form of Maya is prevalent, but most texts are written in Spanish.

Street (1997) outlines the challenges in creating a national language policy that takes account of multiple local languages. In particular, he notes that there is a tension between the dominant national literacy practices and the local languages and literacies (p. 374). Without a doubt, there are challenges and limitations of testing teachers of indigenous children, and Mexico's policy to revitalize indigenous languages hinges on its teachers attending to their own competencies in reading and writing to pass these languages to the next generation.

Lewis and Trudell (2010) characterize language policies as either *endoglossic*, supporting the development of local languages, or *exoglossic*, focusing on the diffusion of a national language. The Mexican policy to devote resources to the creation of a test of Maya is an *endoglossic* policy in this respect. The language diversity policy can be understood as an ecological system where each language variety represents a significant resource to be protected (p. 268).

Theoretical Framework

We ground this work in the theories and research from the fields of linguistics, second language acquisition, the unique features of indigenous languages, and best practices in language assessment. For the purposes of creating this language test, the construct of Maya proficiency was developed with the knowledge that best practice requires "assessing a test taker's knowledge of language versus the person's ability to use language; viewing language proficiency as

essentially something internal to the test taker versus something generated in a dynamic interaction among participants; developing language tests to tap hypothesized cognitive abilities versus tests, which are based on specific tasks of interest and are meant to illustrate what a test taker can do,” (Chalhoub-Deville & Deville, 2006, p. 523). Criticism of this approach to language testing is that it has the potential to lead to “reductionist approaches to instruction, where only certain aspects of language behavior are selected for evaluation, neglecting others,” (McGroarty, et al., 1995). Understanding this, we developed four subtests for *La Prueba Maya*: *Lectura* (Reading), *Escrita* (Writing), *Oral* (Speaking), and *Audición* (Listening).

A second issue we address in this work is the process for making educational assessment decisions in the service of language policy. In an attempt to honor and protect the indigenous languages and give them status comparable to the dominant language, in this case Spanish, there is “evidence that language policy and language education can serve as vehicles for promoting the vitality, versatility, and stability of these languages” (Hornberger, 1998). For this reason, linguists with expertise in Maya and Spanish were key participants in the development process. None of the authors of this research study served on the team of test writers. The next section describes the methodologies that were used to develop *La Prueba Maya*.

Methodology

This section describes how the test was developed and then piloted. First, we offer a few words about the SLA theories underlying our test, as well as our choice to administer *La Prueba Maya* via computer. There are three theoretical approaches to second language acquisition—Generative, Interactionist, and Emergentist. Table 2 outlines these theoretical approaches: (Norris & Ortega, 2003, p. 726):

Table 2

What counts as L2 acquisition for three types of SLA theories.

Stage	Generative SLA	Interactionist SLA	Emergentist SLA
Epistemology and construct interpretations	Language as symbolic representation which is autonomous from cognition Learning mediated by UG and L1. Grammatical competence Property theory: initial state and end state in L2 acquisition	Language as symbolic representation which is constrained by cognition Learning mediated by social, affective, and cognitive variables Communicative competence Transition theory: developmental course of L2 acquisition (For information-processing theories) automatization of declarative knowledge	Language as complex rule-like behavior, epiphenomenal result of functional needs Learning as interaction of the organism with the environment Neural networks Transition theory: Specification of input frequency and regularity plus learning mechanisms

Table 2 (continued)

Target Behaviors	Tacit intuiting of what is ungrammatical in the L2	Appropriate and fluent performance when using the L2 communicatively (and in controlled tasks)	Accurate and fluent performance in laboratory tasks Output that matches attested learning curves and eventually matches characteristics of fed input
Elicitation tasks/situations	Grammaticality judgment tasks of various kinds	Spoken and written discourse production Tests of implicit and explicit knowledge: verbalization of understanding of rules; controlled performance on comprehension and production tasks; grammaticality judgment tasks	Implicit memory tasks and forced-choice reaction-times tasks with human learners in laboratory Computer simulations of neural networks

Note. From (2003, p. 728). Norris & Ortega, 2003, p. 728.

The language tasks that were selected for *La Prueba Maya* are from a generative theoretical framework. That is, test takers were expected to demonstrate grammatical competency. It was determined that the test results would be interpreted using a criterion-referenced reporting framework. That is, language proficiency is referenced against the operational performance of a set of authentic language tasks (Brown & Hudson, 2002). Test takers were assigned levels of proficiency (from one to five) based on their performance in each of the four content areas. From the data, interpretations were made about test takers' L2 (Maya) acquisition.

As for the mode of administration, there is ample research evidence to support the appropriateness of using computerized testing to assess language ability, in particular when testing second language learners (see, for example Alderson & Bachman, 2006). More importantly, there is a tradition of research in language testing to support the use of a computerized cloze format (Bachman, 1990).

Test Development Procedure

According to McGroarty et al. (1995), "the development of any test in an indigenous language can be considered an innovation in the educational technology of testing," (p. 329). With this in mind, an interdisciplinary group was created to develop appropriate items to measure Mayan language competence. The criteria to integrate this team were twofold: first, professional expertise in each of the following academic fields: Linguistics, Psychology, Education, Teaching Languages, Teaching Mayan Language, Measurement, Evaluation, and Computer Sciences; second, diverse representation from the three states of the peninsula. Additionally, a group of 20 native Mayan speakers who were also Mayan linguistics college students participated as team members; they were from diverse towns all over the peninsula. The Mayans were involved in the development, scoring, and interpretation of the test scores. Since the test was planned to be taken

by teachers from the three states of the peninsula, it was important to have diversity in dialects represented.

Funding from the Mexican Federal Government was used to create a team of educators, linguists, international test development experts, statisticians, software developers, native speakers, and language teachers, as well as experts in the teaching and learning of second languages, particularly English. The team worked in the design and development of a Maya test that measured competency in four language domains: writing, reading, speaking and listening at five levels of performance: basic, elementary, intermediate, proficient, and expert. The course of action took four stages: designing, administration, grading and meta-evaluation.

Two teams worked in the first stage, test design. The first team included nine people who were experts in linguistics and fluent in Mayan. A second group included experts in intercultural education and the teaching of both Spanish and Mayan. Of these, five are fluent Mayan speakers and three are native Mayans. They were in charge of establishing proficiency levels and determining the structure and format of the test. The second team consisted of three higher education Mayan teachers, two linguists, one computer science expert, and 20 native Maya speakers who were college students. To be part of this team, they had to pass an exam in Mayan writing and participate in a testing workshop. This group was in charge of formulating items, revising, editing, and building the test according to the specifications table and the format required. In this process, to abide to the culture and tradition of the Mayans, items were constructed by native speakers and item developers discussed and revised the test in Maya.

Also of interest were linguistic issues that had to be addressed in the test development process. For example, the linguists and test development experts debated the appropriateness of writing the test item stems in Spanish or Maya for the vocabulary section of the test (particularly in the writing test). Bachman (2001) suggests a conceptual framework between language use in specific situations and language test performance. The authenticity of the language tasks presented in the test affect the construct validity of the inferences that can be made about test takers' ability. In the end, the decision was made to write the item stems in Spanish and the vocabulary words in Maya to ensure that only the Maya vocabulary words under consideration were being measured. Once the team finished the test, software was created to administer it.

Regarding item type, the team opted for a forced choice format for the reading, writing, and listening subtests, and a tape recorded oral format for speaking. A cloze format (Bailey, 1998) was used to assess test takers' ability to use Maya in context. For these items, a phrase or sentence with a word missing (indicated by a blank) was provided in Maya, and test takers were asked to choose the appropriate Maya word to fit in the blank. The reading, writing, and speaking tests were administered by computer, while the two final levels of writing competency were administered via pencil and paper because it could not be assumed that specialized computer keyboards with Maya letters would be available at every test site. In addition, the paper and pencil method ensured there would not be measurement error due to test-taker unfamiliarity with computers. While we are not at liberty to disclose actual test items, some examples that resemble a few of the items appear in Table 3:

Table 3

Specification table for the Mayan test

Domain	Item Type	Example	N items per level
Reading	Questions regarding 5 pictures to select from.	Which is the <u>Blue</u> Bird?	20
Writing	Which word is written correctly	Select one of four choices	20
Speaking	Pictures were shown and respondents name the object through a microphone	Single essay Recorded answers were evaluated by 3 independent judges.	20
Listening	An object was depicted and the respondent has to click the correspondent among 4 options	Example: -chair: -hair -their -her	20

Note. All routines were computer based. All items had a maximum of 60 seconds for a response.

One goal was that the items would get progressively harder in each subtest; Table 4 depicts the results of the item difficulties from the pilot test, and the items do indeed become more difficult for test takers at each of the five levels:

Table 4

Item Difficulties for the Mayan Proficiency Test

Item	Subtest			
	Listening	Writing	Reading	Speaking
1	.76	.80	.79	.81
2	.87	.89	.80	.74
3	.96	.96	.89	.68
4	.87	.86	.88	.77
5	.93	.66	.82	.77
6	.62	.74	.81	.69
7	.89	.40	.81	.62
8	.87	.63	.80	.71
9	.77	.57	.78	.68
10	.84	.65	.70	.57
11	.80	.43	.70	.59

Table 4 (continued)

Item	Subtest			
	Listening	Writing	Reading	Speaking
12	.80	.47	.68	.62
13	.76	.42	.56	.63
14	.74	.37	.52	.50
15	.73	.32	.53	.51
16	.61	.37	.46	.58
17	.66	.29	.40	.58
18	.52	.30	.29	.43
19	.45	.05	.18	.33
20	.58	.01	.15	
21			.24	
22			.06	
23			.11	

Note: $N = 2507$.

This is important because the leveling was done a priori by the test developers. The piloting was a way to verify that the items were appropriately placed in the correct test level by degree of difficulty.

In addition to language proficiency exercises, demographic data were collected from each subject, including years of teaching experience, whether or not they owned a computer, and if they had other family members who speak Maya. The questions about computer ownership are related to the challenges involved with computer-based tests, such as the Test of English as a Foreign Language (TOEFL). As Kunnan (1999, p. 241) asks, "Do test takers world-wide need to have a computer familiarity to be successful on the test (in addition to their English language abilities)?" Weir (2005) cautions that differences in performance might be due to an individual's computer competence (p. 54). However, because computer usage and digital media have become more prevalent among bilingual classroom teachers in Mexico, the test development team was confident that computer-based testing would not interfere with validity issues.

Test piloting

The second stage, piloting the test, was divided into two procedures. First, the test was administered to three groups of college students, all of whom were required to have high proficiency in Maya. Modifications to the test items were done according to feedback that came from this administration. Next, the test was administered to the target group: teachers who planned to work with indigenous Mayan children learning Spanish in school in the Yucatán Peninsula (in the states of Campeche, Quintana Roo, and Yucatán). In this stage, 2,507 preschool and primary teachers took the test in seven computer labs that were set up in higher education institutions across the peninsula. Table 5 shows participants based on gender and region. The test took three hours to administer.

Table 5

State	Gender		Total
	Male	Female	
Yucatán	645	780	1425
Campeche	201	320	521
Quintana Roo	270	291	561
Total	1116	1391	2507

Note. The mean age of participants was 42 years old; however, a large variance was present.

Scoring

The third stage was scoring. Most of the test was scored electronically; however, the speaking competency and the two higher levels of writing competency were assessed by judges using a rubric. For the Speaking subtest, the rubric was designed to assess each recorded spoken response as wrong, correct, or questionable. A team consisting of college students who were native Maya speakers and two Maya language teachers were trained by two linguists who developed the rubric and the grading system to assign scores to the completed tests. Each grading session started with a training period to enhance inter-rater reliability. There were three possible grades for each answer: wrong, correct, or questionable. If any judge graded with “questionable,” the answer had to be scored again, by another judge; if the second judge assigned a grade of “questionable,” again, a third score was planned. The speaking competency portion of the test was recorded using digital software; the writing competency subtest was on paper. At the end, the final score was the result of both grading systems, by judge and by software. Each individual's final score reflected their performance in each of the four communicative competences.

Results

Participants' Mayan Learning Background

The test takers reported learning Mayan in a variety of settings: speaking it in the home since birth, learning it from chatting with friends, or studying it in a formal workshop setting (see Table 6). From analyzing the demographic data provided by the test takers, it is clear that most of the teachers have learned Mayan by oral tradition within the family context and outside the formal educational system. Not surprisingly, subjects who had spoken Maya since birth scored higher overall on the Maya language test than those who learned Mayan at school.

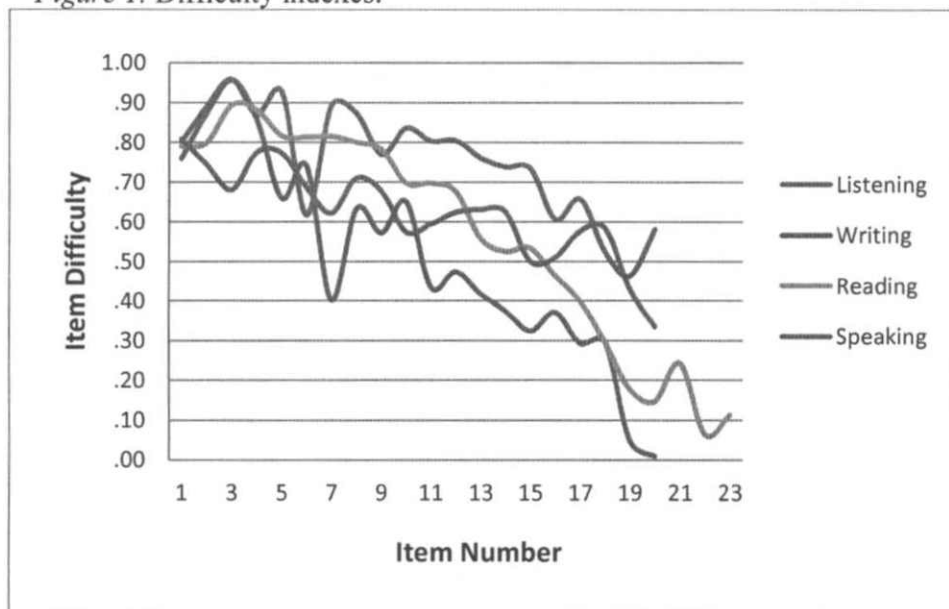
Participants' computer experience/ownership

Our survey of subjects revealed that many were unacquainted with computers. Only 4% of test takers reported owning a laptop and 7% said they owned a desktop computer. Despite this, the decision was made to use the computer to facilitate the recording of data. To mediate this challenge, test takers were trained in how to use the computer at each facility, and practice items were provided to acquaint subjects with the digital procedures. In addition, assistants were at each test site to provide technical help to anyone who needed it. These procedures will continue to be followed in future test administrations. It is hoped that a byproduct of this procedure will be familiarizing Mexico's future teachers with computer technology.

Language-based performance

Participants demonstrated varying degrees of proficiency in reading, writing, speaking, and listening in Maya. The test development team had hypothesized that most test takers would not be able to fluently read and write Mayan, because it is a heritage language that has traditionally not been taught formally in schools, instead being passed down orally from generation to generation. Consistent with the findings of Carreira and Kagan (2011), participants scored higher in listening and speaking than in writing and reading. Specifically, the listening test was the easiest for test takers, and the written test was the hardest. The difficulty indexes were plotted by subtest in Figure 1.

Figure 1. Difficulty indexes.



Note. The writing test was the most difficult and the listening test was the easiest for participants.

If an item were to receive a p-value of 1.00, every test taker would have answered it correctly. Similarly, a p-value of 0 indicates no correct responses. There are two important trends to note: the first is that the difficulty of each subtest increases as the test progresses; the second is that the overall difficulty of the reading and writing tests is greater than the listening and speaking tests.

Figure 4 compares the means of each subtest by state. Test takers in Quintana Roo outscored Campeche and Yucatan in every subtest. While the results of Campeche are predictable, Quintana Roo's performance against Yucatan is surprising, given that the relative percentage of people in Quintana Roo who speak Maya is 23%, compared to 37.3% in Yucatan (see Table 1), according to the 2000 Mexico Census.

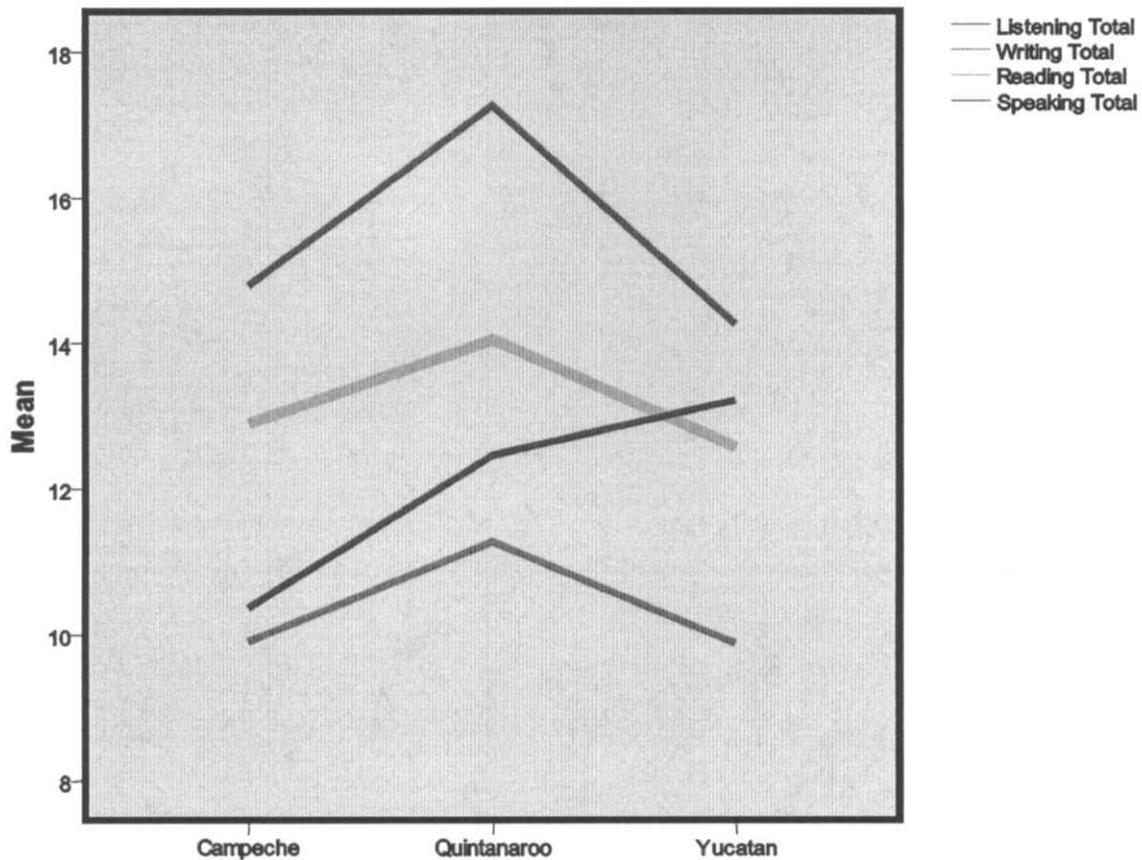


Figure 2. Comparison of the means from each subtest broken down by state.

To further explore this phenomenon, Table 6 breaks down the performance on each subtest by state.

Table 6

Descriptive Statistics

	State	Mean	SD	N
Listening Total	Campeche	14.79	6.117	521
	Quintana Roo	17.26	4.403	561
	Yucatán	14.25	5.257	1425
	Total	15.04	5.410	2507
Writing Total	Campeche	9.91	5.536	521
	Quintana Roo	11.28	5.656	561
	Yucatán	9.88	4.654	1425
	Total	10.20	5.114	2507
Reading Total	Campeche	12.90	7.175	521
	Quintana Roo	14.06	7.159	561
	Yucatán	12.57	4.868	1425
	Total	12.97	5.997	2507
Speaking Total	Campeche	10.36	7.254	521
	Quintana Roo	12.46	7.404	561
	Yucatán	13.22	7.033	1425
	Total	12.46	7.247	2507

These numbers tell us that teachers who are interested in working in schools where the students speak Maya at home and the language of instruction is Spanish may exhibit oral fluency but lack literacy in Mayan.

We also examined the performance of test takers based on where they learned Mayan to better understand how teachers are learning the language (see Table 7).

Table 7

Performance of Test Takers based on where they learned Mayan

Participant responses to: <i>How did you learn Mayan?</i>		Listening Total	Writing Total	Reading Total	Speaking Total
Taking Mayan Language Classes	Mean	11.23	7.88	7.56	5.97
	N	99	99	99	99
	SD	5.622	4.231	6.165	6.137
Talking with Family	Mean	14.46	10.02	11.87	10.88
	N	289	289	289	289
	SD	5.696	5.052	6.021	7.192
Talking with Other People	Mean	13.34	8.72	10.68	9.81
	N	342	342	342	342
	SD	5.962	4.581	6.309	7.222
Speaking it Since Birth	Mean	15.67	10.65	13.89	13.58
	N	1777	1777	1777	1777
	SD	5.065	5.179	5.607	6.946
Total	Mean	15.04	10.20	12.97	12.46
	N	2507	2507	2507	2507
	SD	5.410	5.114	5.997	7.247

Of note are the people who have been speaking Mayan since birth but who are not able to read and write Mayan. In other words, bilingual teachers looking for certification to work in Yucatecan schools with second language learners may not necessarily be fully fluent in their students' home language. This situation raises an interesting question about what aspects of Mayan are passed down via informal educational structures. For policy makers, this requires a decision to be made about the need for bilingual teachers to be able to read and write in the Heritage language in order to be certified to teach Mayan as a second language.

Summary and Recommendations

In general, the pilot of *La Prueba Maya* was considered to be a success, and the test will be used in the future to diagnose levels of language proficiency in adults interested in teaching indigenous Mayan children in the Yucatán peninsula of Mexico. Moreover, in 2010 the

program's success led to the expansion of the test development process to Nahuatl, the most prevalent indigenous language in the Mexico City area.

The Mexican government's dedication to the placement of certified bilingual teachers in Mexican classrooms is a major step forward in both the education of children who are learning Spanish as a second language in school and in the preservation of the heritage indigenous languages of Mexico. As part of this commitment, Mexico must develop a comprehensive education program to teach reading, writing, listening, and speaking in these languages. To do this, it is imperative that bilingual language education programs include a separate track to teach native speakers. And in order to develop curricula that best meet these speakers' needs, access to data that will show their linguistic strengths and weaknesses, such as those collected by *La Prueba Maya*, is necessary. Their linguistic development also depends on strengthening the knowledge of their future classroom teachers.

Note

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