AN ATTEMPT TO DERIVE A REDABILITY FORMULA TO RATE SPANISH WRITING FROM TWO READING EASE INDICES

Thesis for the Degree of M. A.

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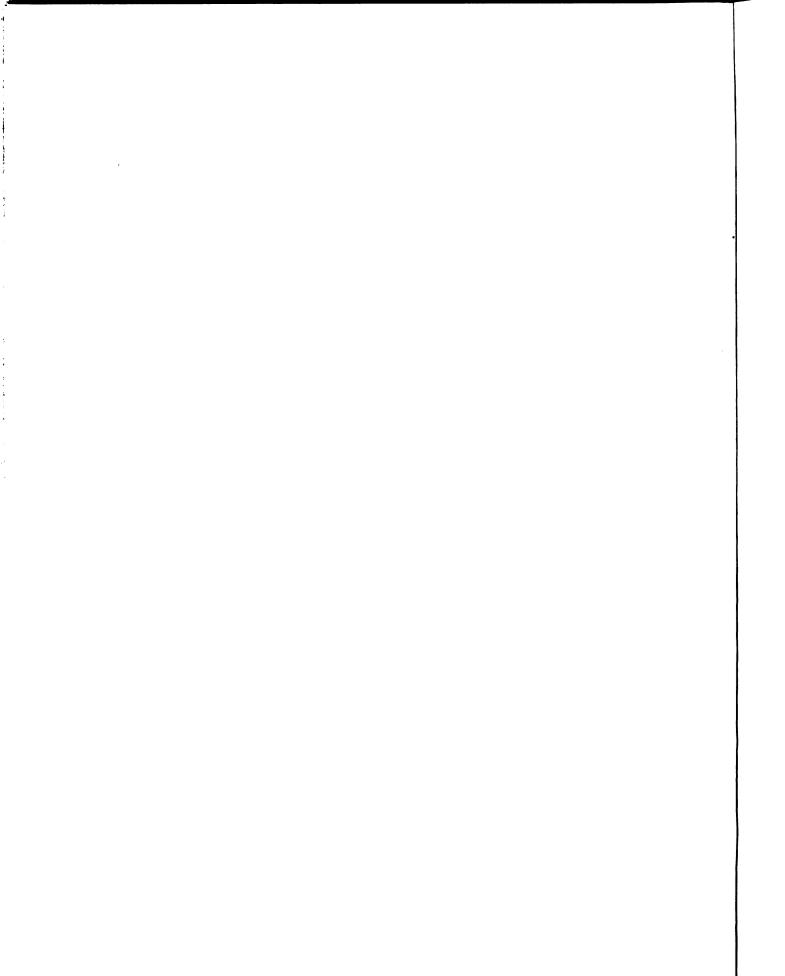
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THESIS

AN ATTEMPT TO DERIVE A REDABILITY FORMULA TO

RATE SPANISH WRITING FROM TWO READING EASE INDICES

BY

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ABSTRACT

The lack of a reliable yardstick to measure the reading level of Extension publications in Puerto Rico and Latin America urged the writer to attempt to derive a readability formula to rate Spanish writing using as a basis the Farr-Jenkins-Paterson or the Flesch reading ease index.

Study of 200 English passages and their Spanish equivalents using the Farr-Jenkins-Paterson index showed that this formula as such does not apply to Spanish. The administration yielded correlations of -.891 for the variable 'number of one-syllable words per hundred words' (nosw); .992 for 'average sentence length' (sl); and .772 for the English and Spanish scores. There were differences of as high as 80 points between English and Spanish scores in some of the categories.

There are about twice as many monosyllables in the easy and fairly easy categories for English as for Spanish. This difference decreases with difficulty. Therefore, 'nosw' does not seem to be a good criterion to rate Spanish writing.

The administration of the Flesch index yielded high correlations of all the variables and the ratings, but very high discrepancies between the actual English and Spanish ratings. Easy Spanish words generally have more syllables than their English counterparts, particularly certain verb forms that assimilate pronouns, prepositions and other roots and parts of speech. In some instances English passages rating very easy (104) had a score for the Spanish version of difficult (31). Because of this inconsistency in syllabic count and the consequent disparity in ratings, the Flesch index had to be discarded.

The variable nosw was changed to include two-syllable words and with this modification the Farr-Jenkins-Paterson index was administered to 100 Spanish passages and the original F J P to their English counterparts. This test yielded the following correlations:

Spanish and English ratings: .996

nosw and 1 & 2sw: .941

sl: .923

Furthermore, scores for corresponding English and Spanish passages were acceptably close.

The lower correlation for the average sentence length is apparently due to the fact that in Spanish easy passages have shorter sentences because of the particles which are assimilated by the verb, as mentioned previously. This makes unnecessary the compulsory use of articles and pronouns to show person, number and gender.

Further testing of the modified F J P index yielded similar results with two other groups of passages.

The test with passages in the very easy and very difficult categories yielded high discrepancies between English and Spanish. Apparently the increase with difficulty in compound and complex sentences and prepositional phrases, which also accounts for an increase in monosyllables in Spanish, and the shorter sentences in the easy passages accounted for these differences. For these reasons the very easy and very difficult passages were discarded in the final computations.

The modified Farr-Jenkins-Paterson Reading Index for rating Spanish writing has the following formula:

$$MFJP = 1.599 \ (1 \ \& \ 2sw) - 1.015 \ sl - 31.517$$

The variables and constants are the same as for the original index except for the variable of one-and-two syllable words per hundred words.

The reading ease categories are the same as for the Flesch and F J P indices, namely:

Easy	80 - 89
Fairly Easy:	70 - 79
Standard:	60 - 69
Fairly Difficult:	51 - 59
Difficult:	30 - 50
Very Difficult:	0 - 29

To rate any publication the reader should pick 100-word samples, preferably at regular page intervals, say every fifth or tenth page, depending on the length of the publication. The longer the writing the larger the number of samples and the better the probability of more representative ones. Samples should come from different sections of the pages.

Next, one-and-two syllable counts and average sentence length must be determined for each passage and these substituted in the formula to determine the score for each passage. The average or mean score of all the passages will be the rating for the publication.

Table 20 at the end of this abstract wil save the reader a great deal of time in determining approximate values for each passage.

It should be kept in mind that, due to linguistic variations the ratings for Spanish passages may be one category off the rating obtainable through other methods like the Cloze Procedure. This is so when ratings fall close to the border of any category. Passages with

unusually high two-syllable count will yield unrepresentative ratings and should be avoided when obtaining sample passages to rate a publication. The proportion of monosyllables to two-syllable words should range from 2:1 to 3:2. Furthermore, the modified Farr-Jenkins-Paterson Index has shown in the original and further tests that it is not reliable for rating extremely easy or extremely difficult writing.

Average Sentence Length (in words)
Longitud Promedio de Oraciones (en palabras)

Table 20.-- MODIFIED FARR-JENKINS-PATERSON READING-EASE INDEX TABLE*

No. of One-Syllable Words per Hundred Words (To rate Spanish, count one-and two-syllable words. Use the same table).
Número de Palabras de Una y Dos Sílabas. (1 & 2 sw) (Para Inglés cuenta sólo las palabras de una sílaba. Use la misma tabla).

Sentence length ↓ / One-syllable words →	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38	36	34
6	97	94	90	87	84	81	78	74	71	68	65	62	58	55	52	49	46	42	39	36	33	30	26	23	20	17
7	96	92	89	86	83	80	77	73	70	67	64	61	57	54	51	48	45	41	38	35	32	29	25	22	19	16
8	95	91	88	85	82	79	75	72	69	66	63	60	56	53	50	47	44	40	37	34	31	28	24	21	18	15
9	94	90	87	84	81	78	74	71	68	65	62	58	55	52	49	46	42	39	36	33	30	27	23	20	17	14
10	93	89	86	83	80	77	73	70	67	64	61	57	54	51	48	45	41	38	35	32	29	25	22	19	16	13
11	92	88	85	82	79	76	72	69	66	63	60	56	53	50	47	44	40	37	34	31	28	24	21	18	15	12
12	91	87	84	81	78	75	71	68	65	62	59	55	52	49	46	43	39	36	33	30	27	23	20	17	14	11
13	90	86	83	80	77	74	70	67	64	61	58	54	51	48	45	42	38	35	32	29	26	22	19	16	13	10
14	89	85	82	79	76	73	69	66	63	60	57	53	50	47	44	41	37	34	31	28	25	21	18	15	12	9
15	88	84	81	78	75	72	68	65	62	59	56	52	49	46	43	40	36	33	30	27	24	20	17	14	11	8
16	87	83	80	77	74	71	67	64	61	58	55	51	48	45	42	39	35	32	29	26	23	19	16	13	10	7
17	86	82	79	76	73	70	66	63	60	57	54	50	47	44	41	38	34	31	28	25	22	18	15	12	9	6
18	85	81	78	75	72	69	65	62	59	56	53	49	46	43	40	37	33	30	27	24	21	17	14	11	8	5
19	84	80	77	74	71	68	64	61	58	55	52	48	45	42	39	36	32	29	26	23	20	16	13	10	7	4
20	82	79	76	73	70	67	63	60	57	54	51	47	44	41	38	35	31	28	25	22	19	15	12	9	6	3
21	81	78	75	72	69	65	62	59	56	53	50	46	43	40	37	34	30	27	24	21	18	14	11	8	5	2
22	80	77	74	71	68	64	61	58	55	52	48	45	42	39	36	32	29	26	23	20	17	13	10	7	4	1
23	79	76	73	70	67	63	60	57	54	51	47	44	41	38	35	31	28	25	22	19	15	12	9	6	3	
24	78	75	72	69	66	62	59	56	53	50	46	43	40	37	34	30	27	24	21	18	14	11	8	5	2	
25	77	74	71	68	65	61	58	55	52	49	45	42	39	36	33	29	26	23	20	17	13	10	7	4	1	
26	76	73	70	67	64	60	57	54	51	48	44	41	38	35	32	28	25	22	19	16	12	9	6	3		
27	75	72	69	66	63	59	56	53	50	47	43	40	37	34	31	27	24	21	18	15	11	8	5	2		
28	74	71	68	65	62	58	55	52	49	46	42	39	36	33	30	26	23	20	17	14	10	7	4	1		
29	73	70	67	64	61	57	54	51	48	45	41	38	35	32	29	25	22	19	16	13	9	6	3			
30	72	69	66	63	60	56	53	50	47	44	40	37	34	31	28	24	21	18	15	12	8	5	2			
31	71	68	65	62	59	55	52	49	46	43	39	36	33	30	27	23	20	17	14	11	7	4	1			
32	70	67	64	61	58	54	51	48	45	42	38	35	32	29	26	22	19	16	13	10	6	3				
33	69	66	63	60	57	53	50	47	44	41	37	34	31	28	25	21	18	15	12	9	5	2				
34	68	65	62	59	55	52	49	46	43	40	36	33	30	27	24	20	17	14	11	8	4	1				
35	67	64	61	58	54	51	48	45	42	38	35	32	29	26	23	19	16	13	10	7	3					
36	66	63	60	57	53	50	47	44	41	37	34	31	28	25	21	18	15	12	9	5	2					
37	65	62	59	56	52	49	46	43	40	36	33	30	27	24	20	17	14	11	8	4	1					
38	64	61	58	55	51	48	45	42	39	35	32	29	26	23	19	16	13	10	7	3						
39	63	60	57	54	50	47	44	41	38	34	31	28	25	22	18	15	12	9	6	2						
40	62	59	56	53	49	46	43	40	37	33	30	27	24	21	17	14	11	8	5	1						

*Reproduced by permission of Dr. James J. Jenkins, coauthor of the original Farr-Jenkins-Paterson Reading Ease Index. Modified to include 6, 7, 8, 39 and 40-word sentences (average).

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ACKNOWLEDGEMENTS

Introduction

In 1944 the Agricultural Extension Service of the University of Puerto Rico established the policy of editing farm and home publications to make them simple enough to be understood by the great majority of farm dwellers in the Island. Other extension services in Latin America have followed a similar path. As a result, the old voluminous, quasi-technical bulletin gave way to simple leaflets, folders and circulars, clear in style, easy to read and cheaper to produce.

However, this policy has had its drawbacks. The editors have done a conscientious job of simplification of written materials, but they have not had a reliable yardstick to measure the reading level of publications in order to match them as well as possible to their different audiences. They cannot accurately tell whether a publication is somewhat difficult for functional illiterates or whether another one may seem insulting to a better educated audience because of its oversimplicity.

For that reason the writer decided to search for a readability formula or index that could, with reasonable accuracy and within accepted limits, assist in rating popular extension publications in Spanish. A review of the literature, presented in Chapter II, shows that no formula has been reported in the scientific literature which is suitable to the needs of extension workers in Latin America. So an attempt was made to adapt a simple, easy to use English formula into a form for the Spanish language. Such a formula would provide the needed tool for extension workers, and upon further adaptation could be used for rating more difficult materials.

CHAPTER I

REVIEW OF LITERATURE AND THEORETICAL BACKGROUND

CHAPTER I

This chapter includes a review of the literature and theoretical
background, a description of the measuring instrument and a statement of
the general hypothesis.

Review of Literature and Theoretical Background

In the United States of America, readability studies date as far
back as 1923, when Lively and Pressey[1] developed a method of measuring
quantitatively the reading difficulty of written materials. Earlier in-
terest in this matter goes back to the turn of the century (1898)[2], al-
though the actual application to education did not begin until the nine-
teen twenties.[3] From that time to the present thirty six formulas and
revisions of formulas have been put to use, each depending on different
criteria to measure reading difficulty. Vocabulary frequency is one of
the most widely used criteria.

In 1957 Powers, Sumner and Kearl[4] recalculated four readability for-
mulas, namely Dale-Chall, Flesch, Farr-Jenkins-Paterson and Gunning.

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[1] Jeanne S. Chall, Readability, an appraisal of research and appli-
cation (Ohio State University, 1958) pp. 36, 42, 48, 156.

[2] F. W. Kaeding, Haufigheitsworterbuch der deutschen Sprache
(Vocabulary List of the German Language , 1898).

[3] Chall, op. cit. p. 153.

[4] R. D. Powers, W. A. Sumner and B. E. Kearl, A Recalculation of Four
Adult Readability Formulas, Journal of Educational Psychology, II, No. 2
(February 1958).

Their objectives were to 1) modernize the formulas to take advantage of the more recently administered tests which should reflect some of the changes in pupil reading abilities between 1926 and 1950, and 2) to establish formulas which are derived from identical materials measured by identical mathematical operations and reported without adjustment.

In 1963 Danielson and Bryan[5] developed a new readability formula for computer analysis. It uses two statistics that computers can find rapidly and easily, namely, average (mean) number of characters per space (equivalent to words), and average (mean) number of characters per sentence. This formula is less powerful than the two most widely used--Dale-Chall and Flesch--but it is about on a par with Farr-Jenkins-Paterson's adaptation of the Flesch formula.[6]

Regarding the Spanish language, most of the work done has dealt with word frequency lists. In 1920 Keniston[7] published "Common Words in Spanish", a list of words by frequency-rank. His sources were mainly dramas. Cartwright[8] made a study in 1925 of the vocabularies of eleven Spanish grammars and fifteen Spanish reading texts. Jameisen[9] published

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[5]W. A. Danielson and S. D. Bryan, Computer Automation of Two Readability Formulas, _Journalism Quarterly_, XL, No. 2 (February 1958) p. 99.

[6]Danielson and Bryan, op. cit. p. 101.

[7]H. Keniston, Common Words in Spanish, _Hispania_ (1920) pp. 85-96.

[8]C. W. Cartwright, A Study of the Vocabularies of Eleven Spanish Grammars and Fifteen Spanish Reading Texts, _Modern Language Journal_ (October 1925) p. 321.

[9]Elsie J. Jameisen, List of Words Compiled from Ten Spanish Grammars, _Modern Language Journal_ (March 1924).

a list of words compiled by comparing the vocabularies of ten Spanish grammars in 1924.

An interesting study was conducted and a list of words published by the New York Society for the Experimental Study of Education. They studied a considerable number of elementary Spanish textbooks and selected the most common words.[10] In 1940, Eaton[11] introduced a semantic count in word listing, a new and important factor, in her book A Semantic Frequency List for English, French, German and Spanish.

Meras and Roth[12] published a useful list of Spanish words selected by experienced teachers, and called "Pequeño Vocabulario, a list of two thousand Spanish words arranged in logical groups of sentence building in the first two years."

Buchanan[13] published his A Graded Spanish Word Book in 1929. It was based on 1,200,000 ordinary words from 40 different literary and technical sources, out of which a 6,072-word list of most commonly used words was prepared. Spaulding[14] developed two formulas to rate Spanish writing. His first formula is based on vocabulary frequency using Buchanan's word list, together with average sentence length. His second

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[10] New York Society for the Experimental Study of Education, List of Words Most Frequently Used in Spanish Texts, El Eco (New York, November 1, 1926).

[11] Helen S. Eaton, A Semantic Frequency List for English, French, German and Spanish (University of Chicago Press, 1940) pp. 1 - 214; 371 - 427.

[12] M. S. Buchanan, A Graded Spanish Word Book, (Toronto, University of Toronto Press, 1929, 3d ed. 1941), p. 7.

[13] Buchanan, op. cit.

[14] Seth Spaulding, Two Formulas for Estimating Reading Difficulty in Spanish, Educational Research Bulletin, XXX (May 16, 1951), pp. 117 - 24.

formula takes into account average sentence length and vocabulary density. Other word lists were prepared in Cuba by Aguayo[15], in Chile by Pino[15], in Mexico by Boder and by Céspedes[16] in Panamá.

Most of these works and the one to follow are considered incomplete or have obvious limitations. Word lists, for instance, have to be revised periodically to try to keep them up to date. This revision is money-and-time consuming and it never works perfectly since language is as dynamic as any aspect of life. Moreover, such lists do not apply to all countries speaking a language because of the many regionalisms, neologisms, and idioms peculiar to each country. These lists would be more useful if frequently supplemented with lists of idioms, neologisms, technical terms and analogical creations.

The Superior Educational Council of the University of Puerto Rico[17] published a Spanish vocabulary count in 1952. It incorporated many more samples from contemporary publications including press, radio, school texts, religious literature, written compositions, and oral conversation of children and adults. They counted 7,066,637 words, with 20,542 lexical units, 62,288 inflection forms and a total of 83,430 different words in order of rank, alphabetical order and listed them in three volumes according to frequency. The sources were grouped under three titles:

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[15]T. Casanova, Educational Psychology and Some Aspects of Education in Latin America, (San Juan, P. R., Imprenta Venezuela, 1934).

[16]T. R. Céspedes, Investigación Acerca de las Palabras Usadas en Castellano, (Panamá, Star and Herald Press, 1929).

[17]Superior Educational Council of the University of Puerto Rico, Recuento de Vocabulario Español (Spanish Vocabulary Count), (Río Piedras, University of Puerto Rico, 1952).

vocabulary of expression, vocabulary of recognition and vocabulary based on judgment of different authors. The second one includes Buchanan's word list.

As stated by Dr. Rodríguez-Bou[18], even though this word count is the most complete and has been very useful in teaching Spanish as a vernacular language, it has the limitations previously mentioned of obsolescence with time and lack of local terms peculiar to other countries.

The only work reported about readability formulas for Spanish is Spaulding's. The two formulas reported are meant for use by persons who know Spanish as a second language. "As they now stand, the formulas rate Spanish passages according to relative difficulty for persons who know Spanish as a second language. The equations are somewhat less accurate for native Spanish speaking persons because of the nature of the criterion and because of the cognate[20] rating factor."[19]

Spaulding's formulas have been applied in informal studies to rate several types of publications. However the writer does not consider them a reliable measure of reading difficulty for Latin American publications because of the aforementioned limitations.

Because of these limitations, and in order to avoid formulas using word lists, it was decided to attempt to derive a formula for rating Spanish writing from an English formula.

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[18]Superior Educational Council of the University of P. R., op. cit.

[19]Seth Spaulding, op. cit. p. 24.

[20]Cognate refers to any word found in each of the frequency value groups as arranged by Spaulding for his study.

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Description of the Measuring Instrument

The measuring instrument consists of the application of Farr-Jenkins-Paterson and Flesch Reading Ease indices to 200 English passages and the corresponding 200 Spanish translations, and correlation of both the English and Spanish ratings and the variables used in each index. The Pearson Product Moment Correlation Coefficient will be used for this second operation.

The Cloze Procedure will be used to rate the Spanish passages as an approximate guide and cross-check with the indices. Not less than 25 persons will be given the test for each passage. These subjects will be selected at random from different levels of schooling, including students from several schools and adults from varying educational and economic levels.

The Farr-Jenkins-Paterson Reading Ease Index utilizes the number of one-syllable words per 100 words (nosw), and average sentence length (sl)--in words--for its variables. The regression equation is as follows:

F. J. P. Reading Ease Index = 1.599 nosw - 1.015 sl - 31.517.

The Flesch formula uses average sentence length and number of syllables per 100 words (wl), as follows:

Flesch New Reading Ease Index = 206.835 - 1.015 sl - .846 wl.

Both indices use the same scale of categories to determine level of reading:

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0 - 29--very difficult

30 - 50--difficult

51 - 59--fairly difficult

60 - 69--standard

70 - 79--fairly easy

80 - 89--easy

90 - up--very easy
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General Hypothesis

It was hypothesized that one of the two indices mentioned above could be adapted with relative accuracy and a formula derived to rate Spanish writing; and that upon further refinement, this Spanish formula could be used to rate publications in other Latin American countries.

CHAPTER II

DESIGN AND PROCEDURE

CHAPTER II

Design and Procedure

This chapter includes the design of the study and the procedure followed in order to attain the expected results.

Design.--The present study is an attempt to derive a formula for rating Spanish writing by applying two readability indices to English and equivalent Spanish passages and correlating the corresponding English and Spanish ratings and the variables used in each formula. It was predicted that these correlations would yield either correction factors for the English indices to develop a Spanish formula, or an idea of the discrepancies between the variables which could lead to a modification of one or more of such variables to obtain the proposed results.

The dependent variable is the "reading ease index" as classified in five categories. The independent variables are "average sentence length" (sl) and number of one-syllable words per hundred words ($nosw$) for the Farr-Jenkins-Paterson index; and sl and "number of syllables per hundred words" (wl) for the Flesch index. The formulas for these indices are as follows:

$$\text{F. J. P.} = 1.599nosw - 1.015sl - 31.517$$

$$\text{Flesch} = 206.835 - 1.015sl - .846wl$$

Reading ease categories for both indices are:

Easy:	80--89
Fairly Easy:	70--79
Standard:	60--69

Fairly Difficult: 51--59

Difficult: 30--50

Very Difficult: 0--29

In order to work with the passages a certain order had to be established. This was done by grouping the corresponding English and Spanish passages by reading ease categories, in accordance with the ratings for the English passages. Two such ordered groupings were used, one with the F J P ratings and another with the Flesch scores.

After obtaining the ratings for the English and Spanish passages, the Pearson Product Moment Correlation Coefficient was to be used to correlate the ratings of the English and Spanish passages, as well as the corresponding variable counts. The correlations, together with the scores, would give a reasonable estimate of the concordance or discrepancy of the reading ease determinations of the Spanish passages and their English versions and thus of the indices for rating Spanish.

Procedure.--Two hundred 100-word English passages and their 200 Spanish equivalents were selected at random from several sources. The writer selected the passages and performed the variable counts, and two other qualified persons cross-checked some of the counts to assure greater accuracy.

The passages were arranged in five tables according to the reading ease categories, taking into consideration the ratings for the English versions. One-syllable word counts (nosw), average sentence length (sl) and number of syllables per hundred words (wl) were determined for each English and Spanish passage. Farr-Jenkins-Paterson scores were obtained with sl and wl. Again, ratings were obtained for both English and Spanish.

Appendix A includes samples of English passages and their Spanish equivalents. Tables 5 to 9 in Appendix B show passage number, number of words per passage, variable counts, ratings for each category, and the Flesch ratings for each passage for purposes of comparison.

In order to have a reliable measure to cross-check the Spanish ratings, the Cloze Procedure[1] was used. Every fifth word was deleted and mimeographed copies prepared of each passage. The writer administered the Cloze tests to students ranging from third grade elementary school to college seniors, and to out-of-school adults, trying to match the passages to the subjects' schooling. Students came from schools of the medium-high economic bracket and of the next to the lowest economic level. The means of at least 25 and not more than 40 tests were reported as the Cloze score for each passage.

There are simple Spanish words that have twice or more times as many syllables as their English versions, and hard or difficult words that are shorter than their English counterparts. This produces a high variability in syllabic content which does not correspond with reading ease. It also yields a very high discrepancy between the ratings for English and Spanish passages when this variable is considered, as in the case of the Flesch index. A new attempt was made with this index by rearranging the passages in five tables according to the scores of

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[1]The Cloze Procedure consists of deleting, say, every fifth word from a passage or passages to be tested. The test is administered to subjects who must fill-in the deleted words. The score of a subject on a passage is equal to the number of his proposed words that match the original ones deleted. The passage with the highest score is considered the most readable, etc., pending the outcome of statistical tests of the significance of the differences observed.

the English versions. Similar results were obtained as can be seen in the tables in Appendix B.

Extremely difficult passages yielded negative ratings with both F J P and Flesch indices, mucho more so in Spanish. Very easy passages were not as sensitive to the formulas. Therefore these two categories were not taken into account in the final computations because they tended to vary the correlations, yielding misleading results. Moreover, the purpose of the study was to derive a formula for testing easy and standard publications, not extremely easy or unreadables ones. As a result, the final computations and correlations were made with only 150 passages, since it was very difficult to secure representative samples of passages in English and Spanish from other sources.

Upon recommendation of Dr. Erwin Bettinghaus[1], the first variable for the F J P index, "nosw", was modified by adding the number of two-syllable words to the monosyllables, thus making it "number of one-and-two-syllable words per hundred words" (1 & 2sw). With this modification a new tabulation was made, including 20 passages in each category.

The means of the ratings, variables nosw, 1 & 2sw and s1 for the F J P, and s1 and w1 for Flesch were obtained for the English in order to correlate these scores with those of the Spanish passages for each level of reading ease. Pearson Product Moment correlations were obtained in all cases before and after the modification of the F J P index.

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[1]Associate Professor, Department of Communication, College of Communication Arts, Michigan State University, E. Lansing.

Several months later another test was made with the cooperation of other coworkers. Similar results were obtained.

Finally, the modified F J P index was expressed as follows:

$$MFJP = 1.599 \ (1 \ \& \ 2sw) - 1.015sl - 31.517$$

CHAPTER III

RESULTS

CHAPTER III

Results

This chapter includes the results of the administration of the Flesch and the Farr-Jenkins-Paterson Indices to English passages and their Spanish equivalents, the modification of the F J P index by altering one variable, and the applicability of the modified F J P index to Spanish.

Simultaneous Test with F J P and Flesch Indices.--The first test was performed with 150 English passages and their Spanish equivalents, grouped in the five reading ease categories according to their F J P ratings. Pearson correlations of the means of the English and Spanish ratings and the variables of the F J P index yielded the following results:

nosw: r = -.891

sl: r = +.956

Ratings: r = +.772

The first variable, number of one-syllable words per hundred words (nosw) showed a tendency to increase gradually with difficulty in Spanish. This was particularly true in extremely difficult passages, characterized by long, hard-to-understand sentences. These sentences are full of prepositional phrases and subordinate clauses which begin with monosyllabic prepositions, pronouns, and articles, besides a profusion of articles used otherwise. This increase does not seem so

pronounced as the decrease--with difficulty--of nosw in English.

The average sentence length (sl) seems to be smaller in the easy categories for Spanish than it is in English. However, as difficulty increases and sentences become more complex, Spanish sentences become equal to or longer than their English counterparts.

TABLE I

DIFFERENCES IN MEAN NOSW AND "AVERAGE SENTENCE LENGTH" BETWEEN ENGLISH AND SPANISH IN THE READING EASE CATEGORIES

Category	Mean nosw			Mean sl		
	Spanish	English	Difference	Spanish	English	Difference
Easy	39.41	78.15	38.74	7.92	8.29	0.37
Fairly Easy	40.2	75.9	35.7	14.36	15.36	1.00
Standard	40.4	72.3	31.9	17.1	18.1	1.0
Fairly Difficult	40.2	67.4	27.2	20.6	21.8	1.2
Difficult	43.6	59.9	16.3	24.8	24.0	-0.8

The drop in ratings with increased difficulty for the Spanish passages is not proportionate to that of the English ones. However, the most significant fact is that as passages become more difficult, the differences between the English and Spanish ratings become smaller. That is, as the formula becomes less sensitive, and thus less reliable, the ratings seem to come closer together. The following table shows the differences.

TABLE 2

DIFFERENCES IN MEAN F J P RATINGS BETWEEN CATEGORIES AND BETWEEN SPANISH AND ENGLISH RATINGS IN EACH CATEGORY

Category	Mean FJP English Ratings	Differences Between Categories	Mean FJP Spanish Ratings	Differences Between Categories	Differences Between Spanish and English Ratings
Easy	85.082		23.506		61.576
		10.419		5.337	
Fairly Easy	74.632		18.169		56.494
		9.002		2.395	
Standard	65.661		15.774		49.887
		11.517		3.936	
Fairly Difficult	54.138		11.817		42.296
		14.185		-0.648	
Difficult	39.959		12.596		27.363

Tables 5 to 9 in Appendix B show details of the F J P test, ratings and variables, both for Spanish and English. Flesch tests are also shown for comparison.

This seems to indicate that the formula as such does not apply to Spanish to predict reliable scores. For this reason it was necessary to cross-check the ratings of the Spanish passages with the Cloze Procedure. The average Cloze scores were .738 for the easy category, .720 for the fairly easy one, .684 for standard, .650 for the fairly difficult, and .616 for the difficult categories. This indicates that the English and Spanish passages are apparently correlated as far as reading ease is concerned, but this is shown neither by the F J P nor by the Flesch index. The last columns of Tables 5 to 9, Appendix B, show the Average Cloze scores for the Spanish passages.

The Flesch index.--Due to high discrepancies observed in the original simultaneous test, 100 English passages were rearranged in five reading ease categories according to their Flesch ratings, followed by their Spanish equivalents (See Tables 10 to 14, Appendix B). Pearson Product Moment Correlations were obtained between the English and Spanish ratings and variables, as follows:

$$\text{Flesch Ratings:} \quad r = .991$$
$$\text{sl:} \quad r = .994$$
$$\text{wl:} \quad r = .994$$

These high correlations indicate that the Spanish ratings and variables varied in accord with the English ones, that is, as difficulty increased so did the ratings. However, there was no correspondence between the English and Spanish ratings. For instance the mean rating for the easy category in English was 86.225 (easy) and for Spanish, 37.052 (difficult). The mean for the difficult category were 42.083 for English and -1.639 for Spanish. The following table shows the discrepancies between ratings and variables.

TABLE 3

· DIFFERENCES BETWEEN MEAN FLESCH RATINGS AND VARIABLES IN ENGLISH
AND SPANISH

Means	Easy		Fairly Easy		Standard		Fairly Difficult		Difficult	
	Eng.	Span.	Eng.	Span.	Eng.	Span.	Eng.	Span.	Eng.	Span.
Ratings	86.38	37.05	74.43	28.17	63.85	13.94	55.41	7.69	42.08	-1.64
sl	11.30	11.10	17.51	16.79	21.84	21.77	26.87	27.51	31.90	30.00
wl	129.10	187.80	135.80	191.10	142.80	200.20	146.80	202.70	156.40	212.20

The differences were generally higher in the very easy and extremely difficult passages. This index had to be discarded also.

The Modified F J P Index.--As indicated previously a modification of the Farr-Jenkins-Paterson Index was attempted by altering the variable nosw. Two-syllable words were added to monosyllables making the variable '1 & 2sw'. The administration of this index to 100 passages arranged according to their English scores is shown in Tables 15 to 19, Appendix B. Pearson correlations were obtained as follows:

$$\text{nosw and 1 \& 2sw:} \quad r = .941$$

$$\text{sl:} \quad r = .923$$

$$\text{Ratings:} \quad r = .996$$

A comparison of the means of the variables and the ratings per categories is shown in the following table.

TABLE 4

COMPARISON OF MEAN FJP VARIABLES AND RATINGS FOR SPANISH AND
ENGLISH AND AMONG READING EASE CATEGORIES

Means	Easy		Fairly Easy		Standard		Fairly Difficult		Difficult	
	Eng.	Span.	Eng.	Span.	Eng.	Span.	Eng.	Span.	Eng.	Span.
nosw & 1 & 2sw	77.8	75.5	75.8	73.5	72.0	72.3	64.8	65.1	61.2	64.8
sl	7.92	7.36	14.8	13.5	17.7	16.7	17.4	15.8	24.5	23.3
Ratings	84.99	81.66	74.67	73.01	65.64	67.88	54.38	56.27	41.50	47.64

The differences between ratings were insignificant except in the difficult category. Yet this difference does not take either mean rating out of the difficult category.

The new or modified index has the following formula:

$$MFJP = 1.599 \ (1 \ \& \ 2sw) \ -1.015sl \ -31.517$$

This modified version seems to apply fairly well in rating average Spanish writing. Further tests by fellow workers have proved this. It must be kept in mind that due to linguistic variations the ratings may be off one category, either above or below the obtained rating. That is, a standard passage may very well be fairly easy or fairly difficult. Generally variations are not so pronounced and scores fall within the reading case categories.

At the same time, this index is not reliable for rating very easy passages (score over 90) or very difficult ones (score below 30). One of the reasons is the monosyllabic count mentioned before. Moreover, passages with a higher-than-usual two syllable count should be substituted because they may rate higher than they really are. The proportion of monosyllables to two-syllable words should range from 3:1 to 3:2 for reliable results.

Summary.--The tests conducted with the English versions of the Farr-Jenkins-Paterson and Flesch indices show that these formulas as such do not apply to the Spanish language. Linguistic differences account for incompatibility of the variables nosw, sl and wl, producing unreliable results.

The modified Farr-Jenkins-Paterson index has shown its applicability in rating Spanish writing, with the exception of very easy and very difficult passages. In these the index loses its sensitivity and the results are misleading. Moreover, there are insignificant variations as to the ratings. These may cause a score to be one category

range. Even though this is true in English, it may be somewhat more
so in Spanish.

CHAPTER IV

DISCUSSION

CHAPTER IV

Discussion

This chapter includes discussion, conclusions and suggestions for further research.

The results of the tests seem to indicate that the Flesch and Farr-Jenkins-Paterson Reading Ease Indices as originally designed cannot be applied in rating Spanish writing.

The Pearson correlations obtained from the English and Spanish ratings and variables were very high for the Flesch Index, showing that as the English ratings go down--that is, as the passages become more difficult to read--the Spanish passages vary accordingly. However, the variation in Spanish increases with difficulty. Spanish words have on the average one and one-half to twice as many syllables as their English equivalents. While the English ratings averaged 86.382 for the easy category, the Spanish mean was 37.053; the means for the fairly easy category were 74.41 and 28.17; the means for the standard ratings were 63.85 and 13.94; the fairly difficult ratings averaged 55.41 and 7.69; and the difficult category had means of 42.08 and -1.64.

This is apparently due to the fact that the number of syllables per 100 words (w1) increases with difficulty at a higher rate in Spanish. While this variable goes up from the easy to the difficult category from 129.05 to 156.40 in English, in Spanish it goes up from 187.75 to 212.20, with instances of 167 in English and 252 in Spanish. Such discrepancies produce ratings of Spanish writing that are far from reliable.

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The original application of the Farr-Jenkins-Paterson Index as designed for the English language failed to produce reliable results when applied to Spanish because apparently there are twice as many monosyllables in English in the easy and fairly easy categories, and the proportion goes down to a 6:4 ratio in the difficult category. In other words, the one-syllable count is supposed to be a measure of reading ease, and in Spanish it is apparently inversely so. Difficult passages seem to have a larger proportion of monosyllables than easy ones when compared to English. This is due to a greater proportion of prepositional phrases, compound and complex sentences, relative pronouns, articles and conjunctions in difficult Spanish passages. Most of these prepositions, pronouns, articles and conjunctions are monosyllables. Of course, difficult words increase in the same or greater proportion.

The shorter average sentence length in Spanish in easy to standard writing seems to counterbalance the higher monosyllable count in English. The reverse occurs beyond the standard into the very difficult category. The increase in monosyllables in difficult Spanish writing is accompanied by an increase in sentence length. This seems to be greater than for equivalent English passages.

In order to better understand the differences in ratings between the two languages, particularly when the Flesch Index was used, the writer considers worthwhile mentioning some of the linguistic differences between Spanish and English.

Special characteristics of the Spanish substantive.--Both in spoken and written language Spanish has distinct desinences (endings) for the masculine singular (generally -o) and the feminine singular

(generally -a) genders, as well as for the plural (-os or -es for mas-

culine and -as for feminine). This reduces the need for continuous use

of articles, pronouns and/or prepositional phrases to specify gender

and number. The same is true with the verb. In almost all moods and

tenses, for each person, singular and plural, the verb has a different

ending. This makes unnecessary the use of the noun or pronoun to esta-

blish person and number.

Both characteristics account for shorter sentences in average

Spanish writings as far as number of words is concerned. This can be

seen in Tables 5 to 8, where the variable sl (average sentence length)

is always smaller on the average in Spanish than in English. Only in

Table 5--the difficult category--does this variable have a higher mean

for Spanish than for English.

Substantivization is more frequent in Spanish than in English,

that is, using a verb--most frequently the infinitive--as a noun, like

"hablar es más fácil que escribir" (to speak is easier than to write).

This is one of the central characteristics of the Spanish language.

The same is done with adjectives, i.e., "el verde de esta tela es más

intenso" (the green of this cloth is more intense), and prepositional

phrases, i.e., "en limpio" (in clean, meaning redoing) or "en serio"

(in serious, meaning seriously). The infinitive is used without the

equivalent of the preposition "to", which is understood. This also ac-

counts for shorter sentences in Spanish.

The infinitive is also used extensively with an article, e.g.,

"el vivir" (literally, the "to live", meaning the life or way of life),

"los quereres" (the "to loves" or the lovings, meaning the love affairs)

and "los andares" (the "walkings", for the roamings). Notice the plura-
lization of the infinitive as if it were a noun. The same is done fre-
quently with complete clauses, i.e., "el no sé qué" (the I don't know
what). All these usages tend to reduce the number of words to express
complete thoughts or ideas.

In English substantivization is a little different. There is a
tendency in English, as in French, to show less modification by gender
and number and to have words remain invariable. However, the distribu-
tion of substantives in masculine, feminine and neuter in accordance
with a logical criterion--masculine and feminine for animated beings
and neuter for inanimated objects or abstract nouns--constitutes an ex-
ceptional case among modern languages that mix and confuse logical with
grammatical distribution. Moreover, the scant generic variation in
English forces the writer to use auxiliary words to distinguish sex
when necessary, e.g., sportsman and sportswoman, male panther and female
panther.

Redundancy in Spanish.--Number is indicated in almost every part
of speech throughout the sentence. That is, the article, the adjetive,
the pronoun and the verb must conform in desinence with the noun as to
number, and the article, pronoun and adjetive must conform as to gender.
You say "the pretty girl is good" which in Spanish becomes "la muchacha
bonita es buena". In plural you have to add an "s" to the article,
noun and adjetives, namely "las muchachas bonitas son buenas".

In general, it can be said that substantivization is easier, but
less frequent in English than in Spanish, e.g., "to stop", "a stop",

"a stopwatch". This, however, will force the reader to read in context to avoid confusion; e.g., "U.S. move to block Cuba" can be "U.S. decide to block Cuba" or "An American strategy to block Cuba".

The verbal structure.--Spanish has almost all the cases found originally in Latin. While English has only the nominative, genitive, objective and vocative cases, Spanish, as o t h e r Romance languages, also has the accusative (direct object), dative (indirect object) ablative and the predicate nominative for the verb "to be", but no genitive.

The infinitive, the present and past participles, and the gerund can be either nouns, adjetives or "verbal" adverbs. In periphrastic conjugation the verb constantly assimilates prepositions, pronouns, adverbs, etc., and a host of nominal roots are verbalized in a more or less definite manner. This causes a great deal of confusion to the foreign reader who must read in context to obtain the intended meaning. Yet it is a very effective way of shortening sentences greatly.

The predominance of the verbal structure has advantages and disadvantages. In the first place it assists in reducing the length of the sentence, making the system more complex but more exact or precise, expressing not only action but also simultaneously time, mood, aspect, number, and sometimes even gender. The nominal structure would need many more words to express, as it is achieved by conjugation of the verb, all the aforementioned functions. For instance, "cantábamos" (we were singing), "y se nos advirtió" (and we were admonished), "que nos arrestarían" (that we would be arrested), or "aconsejósemelo" (he gave this advice to her or to him on my behalf).

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From the standpoint of style this would cause an excessive abundance of prepositions, conjunctions and relative pronouns, which may produce a disagreeable effect on the reader. However it has the advantage of avoiding excessive schematization resulting from the abuse of the noun in modern Spanish. For these reasons and for the sake of simplicity, a compromise between the nominal and verbal structure is recommended, particularly when writing for the average reader.

Verb conjugation is another complex matter in Spanish. Every mood, tense, person, and simple and compound form of a verb has a different ending. This may be a disadvantage to the Saxon student of Spanish, but it represents a great savings in pronouns, auxiliary verbs, and sometimes in articles and prepositions. For instance, "I shall love" becomes "amaré", and "I should have been loved", "habríaseme amado".

Passive voices are rarely used in Spanish, except to give variety to writing and to express subjective and objective action, as 'amar y ser amado' (to love and to be loved). Most of the time the English passive is translated with a "reflexive" pronoun preceding the impersonal active voice.

Syllabification.--In Spanish, syllables are determined by the variation of the sound of consonants in the mouth, that is, by a sound or group of sounds that constitute one single phonic nucleus between two successive depressions of the voice. Thus the English monosyllable "spasm" would have three syllables in Spanish.

There are many more differences between English and Spanish, such as endings which have one or more extra syllables in Spanish, as in

"conference" and "conferencia". For these reasons there seems to be a compensation between the discrepancies of the variables nosw and sl in both languages, excepting in the very easy and extremely difficult categories. The greater number of syllables in Spanish is counter-balanced by the lesser number of words.

It must be kept in mind that words of Saxon origin are shorter than Latin ones, and Spanish comes almost wholly from Latin, with hardly any words from Anglo-Saxon or other Teuton roots. So, many Spanish words which are longer are not necessary more difficult.

Conclusion

The number of one-syllable words in the easy categories in English can be balanced in Spanish by adding the two-syllable count to the first variable. Any difference in this variable is inversely proportional, and thus is counterbalanced by, the shorter average sentence length for the easy categories in Spanish. Therefore, the modified Farr-Jenkins-Paterson Reading Ease Index can be expected to provide satisfactory scores for average Spanish writing. This index has the following regression equation:

$$MFJP = 1.599 \ (1 \ \& \ 2sw) - 1.015sl - 31.517$$

The reading ease categories are the same as for the Flesch and original Farr-Jenkins-Paterson indices, namely:

Easy:	80 - 89
Fairly Easy:	70 - 79
Standard:	60 - 69
Fairly Difficult:	51 - 59
Difficult:	30 - 50
Very Difficult:	0 - 29

To rate any publication the reader should pick representative 100-word samples, preferably at regular page intervals, say every fifth or tenth page depending on the length of the publication. The longer the writing, the larger the number of samples that should be taken to assure a more representative set of passages.

Next, one-and-two-syllable counts and average sentence length must be determined for each passage for use in the formula. The average or mean score of all the passages will be the MFJP rating for the publication.

Table 20 at the end of Appendix B will save the reader a great deal of time and effort. It will determine approximate reading ease values for each passage. Whenever the variable counts are not listed in this table, the proper thing to do if one is interested in obtaining a rating is to apply the formula.

It should be kept in mind that, due to linguistic variations, the ratings for Spanish passages may be one category off those obtained through other methods, like the Cloze Procedure. Ratings falling close to the border of a category can very well belong to the next closer one. Passages with unusually high two-syllable counts will yield un-representative ratings and should be avoided while selecting sample passages. They tend to increase the first variable which is a measure of reading ease.

The reader should note also that the modified FJP index has shown in this study and in further tests that is not sensitive in extremely easy and extremely difficult cases. It will give fairly reliable re-sults in the easy to the difficult reading ease categories.

Readability formulas are rough estimates of the reading level of any material. They only measure one aspect of writing, namely style, and only one aspect of style, that is, difficulty, and then imperfectly so. Moreover, formulas are not measures of good style. A low read-ability score may show that a piece of writing is poor, but a good readability rating does not necessarily make a passage good in style. Moreover, writing against formulas produces dull, choppy text which may reduce or fail to produce reader interest. One should write

keeping in mind the best principles of organization, sequence, simplicity and human interest. Formulas should be used to check writing, one should not write to meet their standards.

Suggestions for Further Research

In order to develop an acceptable readability formula using a vocabulary count, it is respectfully suggested that a study be designed and performed using the Spanish vocabulary count prepared by Dr. Ismael Rodríguez-Bou mentioned on page 6 of Chapter I. Following a procedure similar to that of Spaulding (see footnote of page 4), or the Cloze procedure, or the MFJP index, a set of passages of known reading level should be selected for each category. These passages should be tested by, say, 100 judges, having them classify the passages in five piles in order of reading difficulty.

The variables for developing this formula could be average sentence length and vocabulary frequency value. This frequency value could be determined by assigning a value to every 1000 words in the frequency list. For instance the first 500 words in the list would have a value of 5; the next 500, a value of 10. From there on, every thousand word group would have a number corresponding to its first two digits, i.e., 20 for the second thousand, 30 for the third and so on until the first 10,000 words are covered. Any word listed beyond the first 10,000, together with words not listed, would be given a value of 100.

By means of computation of the rankings of the passages by the judges, and a correlation of the medians in rankings and the arithmetic means, a reading ease scale could be determined. Then a regression

equation might be developed taking into account this scale and the aforementioned variables, average sentence length and vocabulary frequency value.

APPENDIX A

SAMPLES OF PASSAGES

ENGLISH & SPANISH VERSIONS

CLOZE SCORES FOR SOME SPANISH PASSAGES

Source: I Wonder Why

"See this glass", said Mary. What's in it? Jack and the other chil-
dren looked at the glass in Mary's hand. Jack did not see anything in
the glass. The other children did not see anything in the glass. "Some-
thing is in the glass", Mary said. "Look at my experiment". "This is
the way to do my experiment", Mary said. "I put water in this dish. I
do it this way". "I put the glass into the water in the dish", Mary said.
"I do it this way". "See", Mary said. "Something is in the glass. Water
cannot come into it".

F.J.P. = 89.095 Easy   No. of words = 101
                                          nosw = 80
Flesch = 90.413 Very Easy   sl = 7.2
                                          wl = 129

Spanish

"Miren este vaso", dijo María. ¿Qué hay en él? Santiago y los
otros niños miraron el vaso en la mano de María. Santiago no vio nada en
el vaso. Los otros niños no vieron nada en el vaso. "Hay algo en el
vaso", dijo María. "Miren mi experimento. Esta es la forma de hacer mi
experimento", dijo María. "Yo pongo agua en este plato. Lo hago de esta
manera. Coloco el vaso dentro del agua del plato", dijo María. "Lo hago
así". "Vean", María dijo. "Hay algo en el vaso. El agua no puede
entrar en él".

F.J.P. = 27.262-Very Difficult   No. of words = 94
                                          nosw = 41
Flesch = 55.060-Fairly Difficult   1 & 2sw = 84
                                          sl = 6.7
Modified F.J.P. = 95.998-Very Easy   wl = 169

Source: Living Together in Town and Country

It takes long, hot summers to make cotton grow. So it grows well in the South.

Jimmy and Edward like to see the men plant cotton in the spring. They like to see them take care for it all summer.

They like to see the flowers come on the cotton plants. When the flowers go away, there are little round balls in their places. These are called "cotton bolls".

The boys know that soon the cotton bolls will grow big and pop open. And there will be the soft white cotton, ready for the men to pick.

F.J.P. = 85.471-Easy   No. of words = 97
                                           nosw = 80
Flesch = 98.623-Very Easy   sl = 10.77
                                           wl = 115

Spanish

Se requieren largos y cálidos veranos para hacer crecer al algodón. Por eso crece bien en el sur.

A Jimmy y Eduardo les gusta ver a los hombres sembrar algodón en la primavera. Les gusta ver cuidarlo todo el verano.

Les gusta ver las flores salir en las matas de algodón. Cuando las flores se caen, hay unas bolitas redondas en su lugar. Estas se llaman cápsulas de algodón.

Los niños saben que pronto las cápsulas de algodón crecerán en tamaño y se abrirán. Y habrá algodón blando y blanco para los hombres recogerlo.

F.J.P. = 23.557-Very Difficult   No. of words = 94
                                           nosw = 41
Flesch = 47.454-Difficult   1 & 2sw = 73
                                           sl = 10.44
Modified F.J.P. = 74.623-Easy   wl = 176

Television for Tomorrow's Schools
by Carl Bakal

In 17 classrooms scattered throughout Hagerstown, in Maryland, the student's interest perks up. With eyes glued to television sets, they see a typical breakfast scene. Mrs. Vance continues: If there were no green plants in the world, what could you have to put on the breakfast table? How about cereal? No, you wouldn't have that because cereal is made from grain and grain comes from a green plant. So let's take away the cereal. Would you have milk? No, you wouldn't. Oh, I know cows give milk, but what do cows eat? Plants. Take away the milk too.

F.J.P. = 78.519-Fairly Easy

Flesch = 84.9-Easy

No. of words = 98
nosw = 74
sl = 8.167
wl = 134

Spanish

En 17 aulas diseminadas por Hagerstown, en Maryland, se aviva el interés de los estudiantes. Con los ojos clavados en la pantalla de sus televisores, ven en seguida la escena típica de un desayuno. La señora Vance continúa: Si no hubiera plantas ¿qué tendrían ustedes para poner en su mesa al desayuno? ¿Tendrían cereales? No, no los tendrían porque esos alimentos son hechos de grano y el grano lo dan las plantas. Así pues, retiremos el cereal. ¿Tendrían leche? No, no la tendrían tampoco. Sí, yo sé que la leche la dan las vacas, pero ¿qué comen las vacas? Plantas. Retiremos también la leche.

F.J.P. = 42.831

Flesch = 29.9-Very Difficult

Modified F.J.P. = 78.009-Fairly Easy

No. of words = 104
nosw = 52
1 & 2sw = 74
sl = 8.67
wl = 199

Source: Making Storybook Friends

So Father found the man who could open the church doors. Then Father
and Mother and Bob and all the other people went to the church. The man
opened the doors for them, and they all went in. The man turned on the
lights. And there in the back of the church they found Judy.

As soon as the lights were on, Judy opened her eyes. She saw Mother
and Father and Bob and all the other people. They were standing all
around her.

Judy had been asleep all the time. She had not been frightened at
all.

F.J.P. = 84.857-Easy   No. of words = 98
                                            nosw = 79
Flesch = 97.060-Very Easy   sl = 9.8
                                            wl = 118

Spanish

Entonces Papá encontró al hombre que podía abrir la iglesia. Luego
Papá y Mamá y toda la otra gente entraron a la iglesia. El hombre les
abrió la puerta, y todos entraron. El hombre encendió las luces. Y en la
parte de atrás de la iglesia encontraron a Judy.

Tan pronto se encendieron las luces, Judy abrió los ojos. Vio a Papá
y Mamá y Bob y toda la otra gente. Estaban parados alrededor de ella.

Judy había estado durmiendo todo el tiempo. No se había sentido
asustada.

F.J.P. = 17.115-Very Difficult   No. of words = 88
                                            nosw = 36
Flesch = 59.159-Standard   1 & 2sw = 68
                                            sl = 8.8
Modified F.J.P. = 68.283-Standard   wl = 164

And how can that be true love which is falsely attempted? Love is a familiar; Love is a devil. There is no evil angel but Love. Yet was Sampson so tempted, and he had an excellent strength; yet was Solomon so seduced, and he had a very good wit. Cupid's butt-shaft is too hard for Hercules' club, and therefore too much odds for a Spaniard's rapier. The first and second cause will not serve my turn; the passdo he respects not, the duello he regards not; his disgrace is to be called boy, but his glory is to subdue men.

F.J.P. = 64.909-Standard

Flesch = 77.214-Fairly Easy

No. of words = 101
nosw = 71
sl = 16.85
wl = 133

Spanish

¿Y cómo puede ser leal el amor, cuando se procura falsamente? El Amor es un espíritu familiar; el Amor es un demonio; no hay otro Angel malo sino el Amor. No obstante, Sansón fue tentado, y gozaba de prodigiosa fuerza. Salomón fue también seducido por él, y disfrutaba de gran sabiduría. La flecha de Cupido es demasiado dura para la maza de Hércules, y por ello harto desigual para la espada de un español. La primera y segunda causa no me servirán en el trance. No respeta el "pasado" ni atiende al duelo. Su desgracia es llamarse niño; más su gloria subyugar a los hombres.

F.J.P. = 33.537-Difficult

Flesch = 26.679-Very Difficult

Modified F.J.P. = 78.309-Fairly Easy

No. of words = 105
nosw = 49
1 & 2sw = 77
sl = 13.1
wl = 197

The boys grew to hate those harsh masters and when the resistance movement began secretly to form they were among the first to join. It was not a matter of playing war. Their extreme youth and insignificant size, added to an intimate knowledge of the neighboring hills, made them immensely valuable. They were used to carry messages to the forces of liberation and, more dangerous still, to ferret out information on the movement of the German troops.

The good nurse broke off, her eyes moist, then with even deeper feeling she went on.

I need not tell you how fine they were, those infants.

F.J.P. = 69.620-Standard

Flesch = 60.5-Standard

No. of words = 104
nosw = 74
sl = 17.33
wl = 152

Spanish

Los muchachos llegaron a odiar a los tiranos y cuando comenzó a formarse secretamente el movimiento de resistencia fueron de los primeros en alistarse. No se trataba de jugar a la guerra. Sus pocos años y su insignificante pequeñez, sumados al íntimo conocimiento que tenían de los cerros vecinos, les daba inapreciable valor. Los utilizaron para llevar mensajes a las fuerzas de liberación y, lo que todavía era más peligroso, para obtener informes sobre los movimientos de las tropas alemanas.

La buena enfermera se interrumpió, con los ojos húmedos; luego continuó con creciente emoción: No hay para qué decirle cuán admirables fueron estos chiquillos.

F.J.P. = 22.5-Very Difficult

Flesch = 1.433-Very Difficult

Modified F.J.P. = 61.22-Standard

No. of words = 104
nosw = 45
1 & 2sw = 69
sl = 17.33
wl = 222

THE PIT AND THE PENDULUM P. 170

After that, the sound of the inquisitorial voices seemed merged in one dreamy indeterminate hum. It conveyed to my soul the idea of revolution-perhaps from its association in fancy with the burr of a mill-wheel. This only for a brief period, for presently I heard no more. Yet for a while, I saw - but with how terrible an exaggeration! I saw the lips of the black-robed judges. They appeared to me white-whiter than the sheet upon which I trace these words--and thin even to grotesqueness; thin with the intensity of their expression of firmness--of immovable resolution-- of stern contempt of human torture.

F.J.P. = 68.539-Standard   No. of words = 108
                                               nosw = 74
Flesch = 46.437-Difficult   sl = 18
                                               wl = 168

Spanish

Edgar Allan Poe
OBRAS EN PROSA - Ediciones de la Universidad de P.R.

El Foso y el Péndulo -   P. 23

Después, el murmullo de las voces de los inquisidores pareció fundirse en un soñoliento zumbido indeterminado, que trajo a mi mente la idea de revolución, tal vez porque imaginativamente lo confundía con el ronroneo de una rueda de molino. Esto duró muy poco, pues de pronto cesé de oír. Pero al mismo tiempo pude ver...¡aunque con qué terrible exageración! Vi los labios de los jueces togados de negro. Me parecieron blancos--más blancos que la hoja sobre la cual trazo estas palabras, y finos hasta lo grotesco; finos por la intensidad de su expresión de firmeza, de inmutable resolución, de absoluto desprecio hacia la tortura humana.

F.J.P. = 25.113-Very Difficult   No. of words = 107
                                               nosw = 49
Flesch = 4.070-Very Difficult   1 & 2sw = 79
                                               sl = 21.4
Modified F.J.P. = 73.093-Fairly Easy   wl = 214

Book Reviews   P. 261

The first nine pages give a short survey of the form, structure and development of insects. This is followed by thirty pages on classification with clear photographs and concise descriptions of the most important orders and families. Mites, centipedes and nematodes are included. Chapter II (16 pages) tells us how to capture and identify insects and other plant pests.

The main body of the book consists of Chapter III (415 pages) in which the pests of 35 crops are treated individually. Pests are grouped according to plant parts attacked and plant damage, and insects are in most cases illustrated by excellent photographs.

F.J.P. = 45.569-Difficult   No. of words = 102
                                             nosw = 59
Flesch = 41-Difficult   sl = 17
                                             wl = 176

Spanish   Ibid   P. 227

Las primeras 9 páginas nos brindan un corto recuento de la forma, estructura y desarrollo de los insectos. Luego siguen 30 páginas con las clasificaciones, fotografías y acertadas descripciones de las órdenes y familias más importantes. Entre ellas se incluyen piojillos, ciempiés y gusanos.

En el Capítulo II, de 16 páginas, indica cómo capturar e identificar insectos y otras plagas plantívoras.

El Capítulo III, de 415 páginas, forma el cuerpo del libro. En él se discuten, individualmente, las plagas de 35 clases de semillas y las agrupa de acuerdo a la parte de la planta que atacan y el daño que causan. Todos los insectos ilustrados están generalmente ilustrados con excelentes fotografías.

F.J.P. = 25.797-Very Difficult   No. of words = 112
                                             nosw = 46
Flesch = 17.521-Very Difficult   1 & 2sw = 70
                                             sl = 16
Modified F.J.P. = 65-Standard   wl = 246

I will stir up fierce hatred between Trojans and Achaeans, and
you shall come to a bad end."

At this Helen was frightened. She wrapped her mantle about her
and went in silence, following the goddess and unnoticed by the Trojan
women.

When they came to the house of Alexandros the maid-servants set
about their work, but Helen went into her own room, and the laughter-
loving goddess took a seat and set it for her facing Alexandros. On
this Helen, daughter of aegis-bearing Jove, sat down, and with eyes
askance once began to upbraid her husband:

F.J.P. = 54.123-Fairly Difficult   No. of words = 98
                                                nosw = 66
Flesch = 72.731-Fairly Easy   sl = 19.6
                                                wl = 135

Spanish   -   Homero   -   La Iliada   P. 22

Pondré funestos odios entre treucos y dánaos y tú perecerás de
mala suerte."

Ante esto Helena tuvo miedo. Echándose el blanco velo sobre sí
misma salió en silencio tras la diosa sin que ninguna de las troyanas
lo advirtiera.

Tan pronto llegaron al palacio de Alejandro, las esclavas volvie-
ron a sus labores y Helena se fue derecha a su alcoba. La risueña
Afrodita colocó una silla delante de Alejandro; sentóse Helena, la hija
de Zeus, que lleva la égida, y apartando la vista de su esposo le incre-
pó con estas palabras:

F. J. P. = 12.371-Very Difficult   No. of words = 91
                                                nosw = 39
Flesch = 36.928   1 & 2sw = 62
                                                sl = 18.2
                                                wl = 179

        In a village of La Mancha, the name of which I have no desire to call
to mind, there lived not long ago one of those gentlemen that keep a lance
in the lance-rack, and old buckler, a lean hack, and a greyhound for
coursing. An olla of rather more beef than mutton, a salad on most
nights, scraps on Saturdays, lentils on Fridays, and pigeon or so extra on
Sundays, made away with three-quarters of his income. The rest of it went
in a doublet of fine cloth and velvet breeches and shoes to match for holy-
days, while on week days he made a brave figure in his best homespun.

F.J.P. = 77.727-Fairly Easy   No. of words = 113
                                             nosw = 92
Flesch = 40.079-Difficult   sl = 37.6
                                             wl = 152

                     El Ingeniero Hidalgo

Spanish   DON QUIJOTE DE LA MANCHA

           Obras Completas de Miguel Cervantes Saavedra

        Colección Crisol   Ed. Aguilar, Madrid 1960   P. 1037

        En un lugar de La Mancha, de cuyo nombre no quiero acordarme, no ha
mucho vivía un hidalgo de los de lanza en astillero, adarga antigua,
rocín flaco y galgo corredor. Una olla de algo más vaca que carnero,
salpicón las más noches, duelos y quebrantos los sábados, lentejas los
viernes, algún palomino de añadidura los domingos, consumían las tres
cuartas partes de su hacienda. El resto de ella concluían sayo de velar-
te, calzas de velludo para las fiestas con sus pantuflas de lo mismo, y
los días de entre semana se honraba en su vellorí de lo más fino.

F.J.P. = 10.141-Very Difficult   No. of words = 99
Modified F.J.P. = 58.111-Fairly Difficult   nosw = 47
Flesch = 18.522-Very Difficult   1 & 2sw = 77
                                             sl = 33
                                             wl = 183

(Typical case of shorter sentences in Spanish, but lower readability score
due to lower monosyllabic count).

In the meantime, the cat slowly recovered. The socket of the lost
eye presented, it is true, a frightful appearance, but he no longer
appeared to suffer any pain. He went about the house as usual but, as
might be expected, fled in extreme terror at my approach. I had so
much of my old heart left, as to be at first grieved by this evident
dislike on the part of a creature which had once so loved me. But this
feeling soon gave place to irritation. And then came, as if to my
final and irrevocable overthrow; the spirit of PERVERSENESS.

F.J.P. = 71.160-Fairly Easy   No. of words = 102
                                           nosw = 75
Flesch = 65.208-Standard   sl = 17
                                           wl = 147

Spanish   El Gato Negro   P. 53

El gato, entretanto, mejoraba poco a poco. Cierto que la órbita
donde le faltaba el ojo presentaba un horrible aspecto, pero el animal
no parecía sufrir ya. Se paseaba, como de costumbre, por la casa,
aunque, como es de imaginar, huía aterrorizado al verme. Me quedaba
aún bastante de mi antigua manera de ser para sentirme agraviado por la
evidente antipatía de un animal que alguna vez me había querido tanto.
Pero este sentimiento no tardó en ceder paso a la irritación. Y
entonces, para mi caída final e irrevocable, se presentó el espíritu de
la PERVERSIDAD.

F.J.P. = 14.503-Very Difficult   No. of words - 97
                                           nosw = 39
Flesch = 18.756-Very Difficult   1 & 2sw = 61
                                           sl = 16.1
Modified F.J.P. = 49.680-Difficult   wl = 203

(Typical case of shorter sentences in Spanish, but lower readability
 score due to lower monosyllabic count).

Dave and Mary saw the wagons come in with baskets of apples from the orchard.

Some of the men put the apples into a big machine. This machine had many little brushes on it. The machine took the apples over the brushes. The apples came out red and shining. Then the machines put all of the big apples together in one place. They put smaller apples together in another place. They put the smallest apples together in another place, too.

Workers were packing the apples into big boxes.

"Where do the apples go now?" asked Mary Ann.

F.J.P. = 57.765-Fairly Difficult   No. of words = 97

                                                    nosw = 62

Flesch = 78.549-Fairly Easy   sl = 9.7

                                                    wl = 140

Spanish

Dave y Mary vieron los carros llegar con canastas de manzanas de la huerta.

Algunos de los hombres pusieron las manzanas en una máquina grande. La máquina tenía muchos cepillitos. La máquina pasó las manzanas sobre los cepillos. Las manzanas salieron rojas y brillantes. Luego las máquinas pusieron todas las manzanas grandes juntas en un sitio. Pusieron las medianas juntas en otro sitio. Pusieron las más pequeñas en otro sitio también.

Los trabajadores estaban empacando las manzanas en cajas grandes.

"¿A dónde van las manzanas ahora?" preguntó Mary Ann.

F.J.P. = 11.440-Very Difficult   No. of words = 89

                                                    nosw = 32

Flesch = 46.404-Difficult   1 & 2sw = 58

                                                    sl = 8.09

Modified F.J.P. = 53.014-Fairly Difficult   wl = 180

Source: The Facts in The Case of M. Valdemar

For the purpose of relieving M. Valdemar from the mesmeric trance, I made use of the customary passes. These for a time were unsuccessful. The first indication of revival was afforded by a partial descent of the iris. It was observed, as specially remarkable, that this lowering of the pupil was accompanied by the profuse out flowing of a yellow ichor (from beneath the lids) of a pungent and highly offensive odor.

It was now suggested that I should attempt to influence the patient's arm as here to fore. I made the attempt and failed. Dr. F__. then intimated a desire to have me put a question.

F.J.P. = 55.594-Fairly Difficult

Flesch = 60.480-Standard

No. of words = 104
nosw = 64
sl = 15
wl = 155

Spanish - Los Hechos en el Caso del Señor Valdemar   P. 69

A efectos de librar del trance hipnótico al paciente, acudí a los pases habituales. De entrada resultaron infructuosos. La primera indicación de un retorno a la vida la proporcionó el descenso parcial del iris. Como detalle notable, se observó que este descenso de la pupila iba acompañado de un abundante flujo de icor amarillento, procedente de debajo de los párpados, que despedía un olor penetrante y fétido.

Alguien me sugirió que tratara de influir sobre el brazo del paciente como al comienzo. Lo intenté, sin resultado. Entonces el doctor F.___. expresó su deseo de que interrogara al paciente.

F.J.P. = 21.431-Very Difficult

Flesch = 13.061-Very Difficult

Modified F.J.P. = 50.213-Fairly Difficult

No. of words = 98
nosw = 42
1 & 2sw = 60
sl = 14
wl = 212

Stirring drama was under way on the microscope's glass slide.
Dr. Landrum Shettles, of Columbia University's College of Physicians and
Surgeons, had placed on the slide an egg cell from an ovary of a woman
undergoing surgery. To this he added a drop of male sperm. As he peered
through the microscope, a tiny spermatozoon wriggled its way into the re-
latively enormous egg cell.

With the ovum and spermatozoon blended into a completed cell, the
globular egg narrowed to an hourglass shape. At the end of 30 hours it
pulled apart to make two cells.

F.J.P. = 49.953-Difficult   No. of words = 95
                                             nosw = 61
Flesch = 58.9-Fairly Difficult   sl = 15.83
                                             wl = 156

Spanish   Cómo Comienza la Vida

En la lámina portaobjetos del microscopio se desarrollaba un drama
apasionante. El Dr. Landrum Shettles, del Colegio de Médicos y Cirujanos
de la Universidad de Columbia, había colocado sobre la placa un óvulo
tomado del ovario de una mujer a quien estaban operando. A este óvulo le
agregó una gota de semen masculino. Mientras observaba a través del mi-
croscopio, un diminuto espermatozoide se abrió paso culebreando hasta el
óvulo, relativamente enorme.

Con el óvulo y el espermatozoide combinados en una célula completa,
el huevo, de forma globular, se estrechó en forma de reloj de arena. Al
cabo de 30 horas se dividió en dos células.

F.J.P. = 18.5-Very Difficult   No. of words = 105
                                             nosw = 42
Flesch = 2.117-Very Difficult   1 & 2sw = 68
                                             sl = 17.5
Modified F.J.P. = 59.452-Fairly Difficult   wl = 233

(Sub for H B 126)   No. 34   1957   P. 80

Said bond shall be conditioned upon prompt payment for the purchase, and performance of the contracts for the delivery, of milk and its by-products. If at a given time the bond be not sufficient to answer for the debts of the obligor to the producer, handler, processor, sterilizer or seller, as the case may be, said bond will be allocated pro rata bet-ween the said creditors. Claims presented to the Administrator upon his request shall constitute prima facie evidence of the amount of the debt in any action brought by the creditors entitled to claim under the provi-sions of this section.

F.J.P. = 31.816-Difficult

Flesch = 35.7-Difficult

No. of words = 101
nosw = 61
sl = 33.7
wl = 162

Spanish   (Sustitutivo al P. de la C. 126)   Núm. 34   1957   P. 82

Dicha fianza responderá del pago rápido por la compra de, y cumpli-miento de los contratos respecto a entrega de leche y de sus productos derivados. Si en determinado momento la fianza no fuere suficiente para responder de las deudas del depositante frente al productor, manipulador, elaborador, esterilizador o expendedor, según fuere el caso, la misma será distribuida a prorrata entre dichos acreedores. Las reclamaciones pre-sentadas al Administrador; a solicitud de éste, constituirán evidencia . Prima facie del monto de la deuda en cualquier acción por los acreedores con derecho a reclamar de acuerdo con lo dispuesto en este artículo.

F.J.P. = -1.971-Very Difficult

Flesch = 12.100-Very Difficult

No. of words = 97
nosw = 39
1 & 2sw = 63
sl = 32.33
wl = 220

Samples of Passages for Determining Cloze Scores

Source: Making Storybook Friends
Average Cloze Score: .736
F. J. P.   20.155-Very Difficult
M. F. J. P.   80.917-Easy; corresponds with English and Cloze Score

_____rabo nuevo de Dobbin_____gracioso. Hacía reír a_____

gemelos al mirarlo.

    "¿Lo_____a su nuevo hogar_____?" preguntó Mamá. Luego buscó

_____papel y puso a_____en él.

    Los gemelos_____a Mamá mientras envolvía_____papel sobre Dobbin.

Billy_____muy quieto y Beth estaba_____quieta.

    Pronto Dobbin estaba_____cubierto de papel. Beth_____Billy no

podrían ver_____estante rojo. No podían_____las ruedas negras.

No_____ver la silla roja. _____podían ver el gracioso_____de

escoba. No podían_____nada de Dobbin.

En_____día tan especial como_____, ninguna súplica o amenaza,

_____siquiera el saber_____. Tad sólo bebería la medicina_____se lo

pedía su_____, hubiera podido disuadir a_____de hacer lo que_____

había propuesto con todo_____corazón. Partió, pues, diciéndose_____

sus adentros que Tad_____. A la entrada de_____Casa Blanca le

aguardaba_____edecán, el general Fry,_____lo apremió a subir_____

coche. Se había atrasado_____poco. Lincoln comentó que_____sentía

como aquel asesino_____, camino del patíbulo, habló_____la excitada

turba arremolinada_____su derredor. "Por qué_____prisa en llegar

los_____? Bien saben que la fiesta_____empieza hasta que yo no

_____."

Pero_____continuó. Quería ser_____primera en bajar por_____

montaña. Llegó a un_____donde los arbolitos y____matas estaban

estropeados. Algo____estado resbalando montaña abajo y había abierto

un camino_____abajo.

Flora se detuvo_____ver por qué los_____y las matas estaban

_____. Se paró en medio_____camino y miró hacia_____y hacia abajo

de_____montaña.

Entonces alguien gritó: "¡_____!" . "¡Madera!"

"¡Corre, Flora, corre!" _____Dave.

Pero Flora no_____. Tenía miedo. No sabía_____hacer.

_____muchachos llegaron a odiar_____los tiranos y cuando_____a for-marse secretamente el_____de resistencia fueron de_____primeros en alis-tarse. _____se trataba de "jugar_____la guerra". Sus pocos_____ y su insignificante pequeñez, _____al íntimo conocimiento que_____de los cerros vecinos, _____daba inapreciable valor. _____utilizaron para lle-var mensajes a las_____de liberación y, lo_____todavía era más peligroso, _____obtener informes sobre los_____de las tropas alemanas.

_____buena enfermera se interrumpió; _____los ojos húmedos; luego _____con creciente emoción: "No_____para qué decirle cuán_____fueron estos chiquillos.

"Un Descenso al Maelstrom"

_____"pequeño acantilado", a cuyo borde_____había tendido a _____

con tanta negligencia que_____parte más pesada_____su cuerpo sobresalía

del_____, mientras se cuidaba de_____caída apoyando el codo_____la res-

balosa arista del_____; el "pequeño acantilado", digo,_____formando un

precipicio de_____roca reluciente, de mil_____a mil seiscientos pies,

_____la multitud de despeñaderos_____más abajo. Nada me_____inducido

a tomar una_____a menos de seis_____de aquel borde. _____largo rato

antes de_____pudiera reunir coraje suficiente_____sentarme y mirar a

_____distancia.

_____implacable Mcdonwald-digno de_____un rebelde, pues para_____

las multiplicadas villanías de_____naturaleza abundan en él_____provisto

de las islas_____Oeste de un refuerzo_____"Kernes" y "gallowglasses",

_____la Fortuna, sonriendo a_____maldita causa, muéstrase como_____

ramera del rebelde. Pero_____es demasiado inútil; porque_____bravo

Macbeth bien merece_____nombre, despreciando la Fortuna,_____su acero

blandido que humeaba_____ejecuciones sangrientas, como_____del valor,

se ha_____paso hasta la presencia_____miserable al que jamás_____ha

dignado tenderle la_____ni despedirse de él. _____antes haberle desco-

sido desde_____ombligo hasta las quijadas_____clavado su cabeza_____

nuestra almenas.

APPENDIX B

TABLES OF TESTS

TEST NO. 1

ADMINISTRATION OF FARR-JENKINS-PATERSON AND FLESCH
READING EASE INDICES TO 150 PASSAGES

Tables 5 to 9

TABLE 5
-ENGLISH PASSAGES WITH EASY RATINGS USING FARR-JENKINS-PATERSON'S NEW READING EASE INDEX, RATINGS FOR THE CORRESPONDING SPANISH PASSAGES, AND FLESCH RATINGS FOR THE SAME PASSAGES.

Passage Number	FARR-JENKINS-PATERSON								FLESCH						Average Social Scores
	ENGLISH				SPANISH				ENGLISH			SPANISH			
	No. of Words	nosw	sl	Ratings	No. of Words	nosw	sl	Ratings	sl	wl	Ratings	sl	wl	Ratings	
2	101	79	7.2	87.496	94	41	6.7	27.241	7.2	129	90.665	6.7	169	57.056	.84
3	101	74	5.05	81.683	84	32	4.2	15.382	5.05	131	90.883	4.2	188	43.524	.82
4	103	76	6.86	83.044	98	42	6.53	31.378	6.86	136	89.816	6.53	191	38.627	.868
5	100	77	5.88	85.278	93	48	5.47	39.672	5.88	123	96.809	5.47	148	76.105	.821
8	102	76	5.67	84.252	100	36	5.5	20.467	5.67	127	96.638	5.5	178	50.664	.765
9	98	81	8.17	89.709	92	32	7.67	11.866	8.17	101	113.096	7.67	163	61.152	.77
10	101	76	6.31	83.602	101	25	6.31	2.053	6.31	136	85.374	6.31	193	37.152	.46
18	103	78	6.43	86.679	88	27	5.55	6.023	6.43	105	111.479	5.55	166	60.766	.687
21	97	78	8.08	85.004	87	40	7.25	25.084	8.08	119	97.960	7.25	145	76.806	.75
23	98	79	9.8	84.857	88	36	8.8	17.115	9.8	118	97.060	8.8	164	59.159	.727
24	102	78	8.5	84.577	96	37	7.38	20.155	8.5	124	93.303	7.38	176	50.448	.736
25	100	77	10	81.456	98	37	9.8	17.599	10	123	92.627	9.8	184	41.224	.736
26	97	75	8.08	82.207	90	42	7.5	28.028	8.08	115	101.344	7.5	166	58.786	.667
27	104	80	8	88.263	95	30	7.3	9.043	8	130	88.735	7.3	185	42.915	.736
29	97	79	10.77	83.872	93	41	10.33	23.557	10.77	115	98.613	10.33	176	47.454	.711
33	100	77	8.33	83.151	87	29	7.25	7.495	8.33	128	90.092	7.25	169	56.502	.667
34	103	79	9.36	85.304	99	38	9	20.110	9.36	126	90.739	9	191	36.114	.70
35	100	79	8.3	86.379	91	38	7.58	21.551	8.3	118	98.582	7.58	163	61.243	.633
200	103	76	7	82.902	107	41	7.2	26.724	7	124	94.826	7.2	179	48.086	.84
203	101	81	9.1	88.6	103	50	6	42.343	9.1	118	97.190	6	185	44.235	.765
205	98	76	6.7	83.207	111	35	8	16.328	6.7	121	97.668	8	173	52.357	.821
206	102	79	8.9	85.77	104	41	7.6	26.326	8.9	137	81.879	7.6	201	29.075	.617
210	101	85	15.5	88.665	104	52	17.3	34.071	15.5	143	70.124	17.3	204	16.691	.715
211	103	75	6.5	81.810	109	46	8.1	33.815	6.5	122	97.016	8.1	183	43.795	.777
215	99	81	9.3	88.563	103	48	11	34.070	9.3	131	86.569	11	169	52.696	.857
218	98	77	9.8	81.659	105	51	9.7	39.187	9.8	1.17	97.906	9.7	187	38.787	.72
219	101	82	10.2	89.248	107	49	8.7	38.003	10.2	125	90.732	8.7	178	47.416	.715
$M =$	100.5	78.15	8.29	85.082	97.3	39.41	7.92	23.506	8.29	123.8	93.989	7.92	176.8	49.216	.738

TABLE 6
-ENGLISH PASSAGES WITH FAIRLY EASY RATINGS USING FARR-JENKINS-PATERSON'S NEW READING EASE INDEX. RATINGS FOR THE CORRESPONDING SPANISH PASSAGES, AND FLESCH RATINGS FOR THE SAME PASSAGES.

| Passage Number | FARR-JENKINS-PATERSON | | | | | | | | FLESCH | | | | | | Average Close Scores |
| | ENGLISH | | | | SPANISH | | | | ENGLISH | | | SPANISH | | | |
	No. of Words	nosw	sl	Ratings	No. of Words	nosw	sl	Ratings	sl	wl	Ratings	sl	wl	Ratings	
1	100	71	6.25	75.668	96	37	6	21.556	6.25	115	103.201	6.	184	45.081	.765
11	97	72	5.7	77.825	102	50	6	42.333	5.7	119	100.375	6	175	52.695	.715
12	98	71	6.5	75.77	89	26	5.56	4.414	6.5	124	95.639	5.56	179	49.758	.667
13	100	72	5.5	78.028	100	38	5.55	23.612	5.5	133	88.734	5.55	179	49.768	.550
17	95	70	6.33	73.988	89	31	5.93	12.033	6.33	133	87.892	5.93	161	64.610	.617
22	99	74	7.6	79.095	89	39	5.93	24.725	7.6	118	99.293	5.93	163	62.918	.633
28	99	72	8.25	75.237	87	32	7.9	11.632	8.25	124	93.557	7.9	165	50.766	.788
45	98	72	10.88	72.568	96	36	10.67	15.217	10.88	121	93.426	10.67	185	39.495	.563
46	102	71	11.33	70.512	96	43	9.67	27.425	11.33	127	87.893	9.67	179	45.586	.647
58	115	91	58.3	75.115	107	53	21.4	31.509	58.3	141	48.674	21.4	187	26.912	.809
64	102	75	17	71.153	97	39	16.1	14.502	17	147	65.218	16.1	203	18.755	.763
72	99	85	24.75	79.277	96	50	24	24.073	24.75	123	77.656	24	177	32.733	.736
76	113	92	37.6	77.427	99	47	53	10.141	37.6	152	40.079	53	183	18.512	.684
79	111	86	35	70.472	107	40	28.6	3.414	35	133	58.792	28.6	165	38.216	.777
195	101	70	5.6	74.729	104	38	6.5	22.648	5.6	109	108.937	6.5	171	55.571	.631
196	102	68	5.3	71.836	103	37	7.1	20.440	5.3	122	98.243	7.1	187	41.426	.562
197	98	84	25.3	77.119	107	41	25.8	8.160	25.3	136	66.099	25.8	201	10.602	.636
198	101	73	9.9	75.101	103	45	8.75	31.557	9.9	113	101.188	8.75	182	43.982	.703
199	101	71	10.1	71.761	100	37	11.3	16.176	10.1	141	78.297	11.3	209	18.552	.858
201	105	76	19	70.722	107	51	23.2	26.484	19.	126	80.954	23.2	203	11.549	.801
202	102	74	16.2	70.366	103	41	14.75	19.071	16.2	119	89.718	14.75	201	21.818	.736
204	104	69	5.1	73.637	101	38	5.6	23.561	5.1	131	90.832	5.6	212	21.799	.777
208	103	72	7.9	75.593	107	40	8.75	23.562	7.9	117	99.834	8.75	184	42.290	.847
209	100	82	27.6	71.597	104	50	25.8	22.246	27.6	101	93.375	25.8	173	34.290	.633
212	99	79	17.1	77.448	102	42	17.5	17.879	17.1	121	87.112	17.5	185	32.562	.667
213	105	85	29.2	74.760	107	41	28.5	5.114	29.2	108	85.829	28.5	163	40.009	.765
214	104	69	5.5	73.231	103	38	5.2	23.967	5.5	131	90.426	5.2	208	25.589	.617
216	102	72	9.09	74.385	105	34	8.61	14.110	9.09	124	92.696	8.61	172	52.584	.460
217	98	61	6.1	71.023	99	29	6.2	8.561	6.1	133	88.125	6.2	197	33.840	.857
220	100	90	58.	73.823	106	47	58.	5.066	58.	137	52.363	58.	201	1.781	.631
232	102	86	26.5	79.099	109	37	24.6	2.677	26.5	128	91.543	24.6	183	27.048	.715
233	101	74	6.9	79.806	112	39	7.2	23.536	6.9	140	81.391	7.2	209	22.713	.821
$\mu =$	101.8	75.9	15.36	74.632	101	40.2	14.36	18.169	15.36	126.5	84.920	14.36	185.2	35.431	.720

TABLE 7
-ENGLISH PASSAGES WITH STANDARD RATINGS USING FARR-JENKINS-PATERSON'S NEW READING EASE INDEX. RATINGS FOR THE CORRESPONDING SPANISH PASSAGES, AND FLESCH RATINGS FOR THE SAME PASSAGES.

Passage Number	FARR-JENKINS-PATERSON								FLESCH						Average coins scores
	ENGLISH				SPANISH				ENGLISH			SPANISH			
	No. of Words	nosw	sl	Ratings	No. of Words	nosw	sl	Ratings	sl	wl	Ratings	sl	wl	Ratings	
15	99	66	7.07	66.841	102	45	7.28	33.049	7.07	123	95.601	7.28	171	54.780	.850
36	98	66	10.88	62.974	87	37	9.74	17.760	10.88	123	91.734	9.74	157	64.127	.658
37	100	69	11.1	67.547	102	41	11.5	22.369	11.1	132	83.896	11.5	175	47.112	.600
38	100	68	10	67.065	97	42	9.7	25.795	10	128	88.397	9.7	186	39.633	.647
39	99	69	9.9	68.765	93	30	9.3	7.013	9.9	117	97.804	9.3	189	37.501	.750
42	98	67	9.8	65.669	98	42	9.8	25.694	9.8	122	93.676	9.8	165	57.298	.689
56	94	74	23.5	62.956	102	48	17	27.980	23.5	131	72.156	17	210	11.920	.705
57	101	69	16.85	61.711	105	49	13.1	33.537	16.85	133	77.214	13.1	197	26.876	.800
62	105	74	18	68.539	99	49	21.4	25.113	18	168	46.437	21.4	214	4.070	.631
65	110	80	27.5	68.490	86	33	21.5	0.573	27.5	151	51.170	21.5	169	42.038	.711
71	101	76	25.2	64.429	97	43	24.2	12.677	25.2	131	71.431	24.2	182	28.300	.684
74	100	74	20	66.509	98	41	19.6	14.148	20	129	77.401	19.6	177	37.199	.636
75	109	76	21.8	67.880	103	45	20.6	19.529	21.8	150	57.808	20.6	209	9.112	.665
80	114	82	38	61.031	106	46	26.5	15.139	38	155	37.135	26.5	210	2.278	.578
132	104	73	17.33	67.620	104	45	17.33	22.848	17.33	152	60.5	17.33	222	1.433	.750
141	89	75	22.25	65.824	113	49	28.25	18.161	22.25	148	58.8	28.25	217	-5.415	.727
149	98	78	30	62.755	107	40	36	-4.000	30	183	21.700	36	212	-8.955	.667
194	102	65	8.67	63.618	114	29	5.7	9.068	8.67	130	88.116	5.7	175	52.999	.703
207	100	68	10.2	66.862	106	38	8.41	20.709	10.2	129	87.348	8.41	167	57.017	.562
222	103	67	8.5	66.988	107	35	6.1	18.257	8.5	122	97.431	6.1	178	50.055	.765
223	102	69	12.75	65.873	104	40	8.67	23.643	12.75	141	78.749	8.67	193	34.731	.633
226	105	81	29.75	67.806	102	34	28.0	- 5.571	29.75	132	64.967	28	187	20.213	.617
227	99	83	35.25	65.421	103	39	31.5	- 1.128	35.25	119	70.382	31.5	178	24.274	.636
229	104	79	27.75	66.638	113	31	25.5	- 7.831	27.75	126	72.073	25.5	201	10.906	.715
230	98	67	8.33	67.162	105	41	8.67	25.242	8.33	147	74.018	8.67	192	35.603	.703
231	102	69	17	61.559	104	38	18.5	10.468	17	118	88.229	18.5	171	43.391	.857
234	107	74	16.67	69.889	102	37	16.25	11.152	16.67	140	71.475	16.25	191	28.037	.684
235	97	71	16	65.772	109	43	16.3	20.695	16	116	92.459	16.3	165	50.700	.765
236	89	77	23.1	68.160	101	36	20.75	4.986	23.1	146	59.872	20.75	192	23.342	.562
241	108	68	11.33	65.715	114	41	12.5	21.355	11.33	164	56.591	12.5	228	1.259	.631
244	103	64	10.1	60.568	112	39	11.33	19.344	10.1	136	81.575	11.33	234	- 2.628	.777
245	101	75	25.5	62.525	102	47	26.25	16.992	25.5	131	70.126	26.25	200	10.991	.617
$\mu =$	101.2	72.3	18.1	65.661	105	40.4	17.1	15.774	18.1	136.7	73.008	17.1	191.1	27.818	.684

TABLE 8
-ENGLISH PASSAGES WITH FAIRLY DIFFICULT RATINGS USING FARR-JENKINS-PATERSON'S NEW READING EASE INDEX. RATINGS FOR THE CORRESPONDING SPANISH PASSAGES AND FLESCH RATINGS FOR THE SAME PASSAGES.

Passage Number	FARR-JENKINS-PATERSON								FLESCH						Average Cloze Scores
	ENGLISH				SPANISH				ENGLISH			SPANISH			
	No. of Words	nosw	sl	Ratings	No. of Words	nosw	sl	Ratings	sl	wl	Ratings	sl	wl	Ratings	
30	97	60	9.7	54.577	89	32	8.09	11.440	9.7	140	78.549	8.09	180	46.344	.688
40	100	58	8.3	52.800	102	36	8.5	17.419	8.3	146	74.894	8.5	194	34.083	.738
43	102	62	10.2	57.268	98	39	9.8	20.897	10.2	134	83.118	9.8	189	36.994	.557
44	94	64	11.25	58.893	90	40	11.25	21.024	11.25	119	94.235	11.25	154	65.132	.633
48	96	64	12	58.639	91	38	11.33	17.674	12	127	87.213	11.33	173	48.906	.633
49	97	63	16.1	52.878	94	30	13.4	2.852	16.1	125	84.743	13.4	185	36.824	.673
50	102	62	12.7	54.730	103	39	11.55	17.633	12.7	123	89.886	11.55	207	20.101	.700
53	98	67	25	50.241	107	38	21.7	7.219	25	142	61.328	21.7	183	29.991	.658
55	103	84	51.5	50.526	115	46	28.75	12.856	51.5	142	34.430	28.75	240	-25.386	.591
68	104	61	15	50.797	98	42	14	21.431	15	155	60.480	14	212	13.273	.615
73	94	66	19.6	54.123	98	39	18.2	12.371	19.6	135	72.731	18.2	179	36.928	.661
127	101	69	25.25	53.185	103	40	25.75	6.307	25.25	145	59.000	25.75	207	6.250	.715
128	100	69	25	53.439	93	37	23.2	4.098	25	146	58.00	23.2	196	17.800	.858
139	98	61	8.17	57.729	104	52	8.67	43.000	8.17	134	85.178	8.67	199	29.680	.703
142	102	68	20.4	56.509	104	31	18.8	- 1.030	20.4	148	60.200	18.8	203	16.115	.683
145	93	63	13.3	55.77	101	47	16.83	26.533	13.3	135	79.3	16.83	181	37.08	.727
146	103	63	17.1	51.863	92	33	15.3	6.721	17.1	165	50.00	15.3	197	24.644	.775
172	106	69	21.2	57.296	119	56	23.8	33.870	21.2	164	47.3	23.8	229	-11.099	.608
176	109	64	18.1	52.447	102	41	18.4	15.400	18.1	172	43.00	18.4	190	27.3	.661
180	93	59	8.25	55.450	102	37	8.3	19.223	8.25	145	75.795	8.3	193	35.325	.688
181	99	56	7.1	50.821	104	33	6.83	14.318	7.1	149	73.575	6.83	176	51.007	.655
182	101	59	8.75	53.943	106	33	8.5	12.623	8.75	141	78.668	8.5	183	43.389	.685
185	103	72	32.3	50.827	109	43	25.5	11.357	22.3	130	74.220	25.5	203	9.630	.667
187	100	74	31.66	54.675	101	46	32	9.557	31.66	137	58.798	32	189	14.461	.541
188	103	81	46	51.312	99	47	46.3	- 3.358	46	134	46.781	46.3	208	-16.127	.460
190	104	69	26.0	52.322	112	38	25	3.770	26.0	140	62.005	25	193	18.182	.715
191	101	64	11.33	59.319	108	31	12.25	5.619	11.33	156	63.359	12.25	188	35.353	.687
192	103	72	30.5	52.653	107	40	30.5	1.486	30.5	129	66.743	30.5	199	7.253	.720
193	104	83	48.5	51.972	109	51	49.5	- 0.161	48.5	138	42.551	49.5	200	-12.607	.550
224	100	77	54.5	56.589	102	41	53.3	0.547	54.5	163	33.920	53.3	189	13.141	.505
225	99	76	36.00	53.467	103	43	38	- 1.330	36.00	171	25.629	38	196	2.449	.480
228	101	78	37.3	55.345	106	47	36.3	6.791	37.3	139	51.381	36.3	204	- 2.593	.578
M	100.3	67.4	21.8	54.138	102.2	40.2	20.6	11.817	21.8	142.8	64.282	20.6	194.3	21.869	.650

TABLE 9
-ENGLISH PASSAGES WITH DIFFICULT RATINGS USING FARR-JENKINS- PATERSON'S NEW READING EASE INDEX. RATINGS FOR THE CORRESPONDING SPANISH PASSAGES, AND FLESCH RATINGS FOR THE SAME PASSAGES.

Passage Number	FARR-JENKINS-PATERSON								FLESCH						Average scores
	ENGLISH				SPANISH				ENGLISH			SPANISH			
	No. of Words	nosw	sl	Ratings	No. of Words	nosw	sl	Ratings	sl	wl	Ratings	sl	wl	Ratings	
41	103	57	10.3	49.171	111	50	11.1	37.166	10.3	150	69.480	11.1	216	12.832	.617
47	100	59	14.3	48.309	101	34	12.6	10.060	14.3	92	114.488	12.6	199	25.697	.565
54	98	63	32.6	36.131	107	39	21.6	8.920	32.6	134	60.382	21.6	220	-32.726	.667
59	103	72	37	46.056	115	53	22.2	30.697	37	148	44.072	22.2	206	10.026	.531
62	105	57	26.2	33.033	99	34	24.6	-2.272	26.2	114	83.798	24.6	223	- 6.944	.631
63	100	60	20	44.123	100	45	20	20.138	20	155	55.405	20	213	6.337	.585
69	94	68	31.6	45.141	102	46	31	10.572	31.6	133	63.089	31	178	24.782	.777
78	106	74	42	44.179	104	45	26	14.048	42	177	51.687	26	203	8.707	.433
88	102	59	25.5	36.941	104	40	26	-6.053	25.5	172	31.210	26	221	- 6.521	.505
89	106	60	21.2	42.905	120	56	30	27.577	21.2	189	25.423	30	292	-70.647	.513
90	104	64	34.6	35.700	107	44	35.6	2.705	34.6	160	36.356	35.6	219	-14.573	.667
91	97	60	24.2	39.860	105	44	26.2	12.246	24.2	150	55.372	26.2	205	6.812	.480
93	97	61	24.2	41.459	126	58	31.5	29.252	24.2	169	39.258	31.5	242	-29.870	.583
96	100	58	31	29.760	120	42	52	-17.139	31	148	41.702	52	217	-29.527	.565
106	103	59	20.6	41.915	95	38	18.8	10.233	20.6	172	40.414	18.8	209	10.939	.316
115	103	67	25.7	49.530	102	43	25.7	11.357	25.7	162	43.697	25.5	202	10.060	.570
124	105	63	35	33.895	102	46	37.3	4.217	35	154	41.026	37.3	223	-19.722	.910
130	92	53	23	30.000	100	37	33.3	- 5.849	23	158	49.822	33.3	216	-9.700	.736
133	98	52	14	37.421	98	40	14	18.000	14	149	67.000	14	201	23.400	.667
134	95	54	14	40.619	105	39	15.71	14.000	14	119	103.000	15.71	148	66.000	.631
135	98	56	15.83	41.960	110	42	17.5	18.500	15.83	156	58.792	17.5	233	2.117	.619
136	102	60	20.4	43.717	102	45	20.4	17.600	20.4	156	54.153	20.4	206	11.853	.700
137	105	54	17.5	37.066	117	45	23.4	16.600	17.5	168	46.400	23.4	250	-18.416	.654
138	109	56	21.8	35.960	107	41	26.75	7.8	21.8	140	66.600	26.75	219	- 5.59	.628
143	93	57	23.25	36.027	101	43	25.25	11.611	23.25	131	72.680	25.25	204	8.712	.652
169	108	55	20.8	35.316	98	47	19.6	24.100	20.8	180	33.445	19.6	246	-21.175	.694
170	106	60	21.2	42.905	110	42	22	14.000	21.2	167	42.800	22	252	-27.657	.727

$\mu = 101.1$ 59.9 24 35.959 106.2 43.6 24.8 12.596 24 150.5 55.244 24.8 217.1 -2.213 .616

Correlations for Test with the Original Farr-Jenkins-Paterson
and Flesch Indices.

F. J. P.

Ratings: r = .772

nosw: r = -.891

sl: r = .956

Flesch

Ratings: r = .983

wl: r = .945

sl: r = .994

TEST NO. 2

USE OF FLESCH READING EASE INDEX WITH REARRANGED PASSAGES

Tables 10 to 14

TABLE 10

ENGLISH PASSAGES WITH EASY RATINGS USING FLESCH INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	ENGLISH			SPANISH		
	sl	wl	Ratings	sl	wl	Ratings
4	6.86	136	89.816	6.53	191	38.627
10	6.31	136	85.374	6.31	193	37.152
13	5.50	133	88.734	5.55	179	49.768
17	6.33	133	87.892	5.93	161	64.610
27	8.00	130	88.735	7.30	185	42.915
38	10.00	128	88.397	9.70	186	39.633
43	10.20	134	83.118	9.80	189	36.994
46	11.33	127	87.893	9.67	179	45.586
48	12.00	127	87.213	11.33	173	48.906
49	16.10	125	84.743	13.40	185	36.824
50	12.70	123	89.886	11.55	207	20.101
139	8.17	134	85.168	8.67	199	29.681
201	19.00	126	80.054	23.20	203	11.549
202	16.20	119	89.718	14.75	201	27.818
206	8.90	137	81.879	7.60	201	29.075
212	17.10	121	87.112	17.50	185	32.562
213	29.20	108	85.829	28.50	163	40.009
215	9.30	131	86.569	11.00	169	52.696
217	6.10	133	88.125	6.20	197	33.840
233	6.90	140	81.391	7.20	209	22.713

Means

     11.31   129.05   86.382   11.08   187.75   37.053

Differences between:

        Mean Ratings   = -49.329

        Mean Word Length   = +58.70

        Mean Sentence Length = -0.22

TABLE 11

ENGLISH PASSAGES WITH FAIRLY EASY RATINGS USING FLESCH INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	ENGLISH			SPANISH		
	sl	wl	Ratings	sl	wl	Ratings
40	8.30	146	74.894	8.50	194	34.083
56	23.50	131	72.156	17.00	210	11.920
57	16.85	133	77.214	13.10	197	26.876
71	25.20	131	71.431	24.20	182	28.300
72	24.75	123	77.656	24.00	177	32.733
73	19.60	135	72.731	18.20	179	36.928
74	20.00	129	77.401	19.60	177	37.199
143	23.25	131	72.680	25.25	204	8.712
145	13.30	135	79.125	16.83	181	37.080
180	8.25	145	75.795	8.30	193	35.325
181	7.10	149	73.575	6.83	176	51.007
182	8.75	141	78.668	8.50	183	43.389
199	10.10	141	78.297	11.30	209	18.552
210	15.50	143	70.124	17.30	204	16.691
223	12.75	141	78.749	8.67	193	34.731
227	35.25	119	70.382	31.50	178	24.274
229	27.25	126	72.073	25.50	201	10.906
230	8.33	147	74.018	8.67	192	35.603
234	16.67	140	71.475	16.25	191	28.037
245	25.50	131	70.126	26.25	200	10.991

Means

    17.51   135.85   74.428   16.79   191.05   28.167

Differences between:

        Mean Ratings   = +46.241

        Mean Word Length   = +55.20

        Mean Sentence Length = -0.72

TABLE 12

ENGLISH PASSAGES WITH STANDARD RATINGS USING FLESCH INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	ENGLISH			SPANISH		
	sl	wl	Ratings	sl	wl	Ratings
41	10.30	150	69.480	11.10	216	12.832
53	25.00	142	61.328	21.70	183	29.991
54	32.60	134	60.382	21.60	220	-32.726
55	18.00	151	60.819	21.40	201	15.069
64	17.00	147	65.218	16.10	203	18.755
67	15.00	155	60.480	14.00	212	16.273
69	31.60	132	63.089	31.00	178	24.782
100	17.80	144	66.944	26.50	239	-22.256
175	27.50	132	67.250	26.00	167	39.163
132	17.33	152	60.663	17.33	222	1.433
133	14.00	149	66.571	14.00	201	22.559
138	21.80	140	66.265	26.75	219	-5.590
142	20.40	148	60.737	18.80	203	16.115
144	25.25	139	63.612	28.75	169	34.680
190	26.00	140	62.005	25.00	193	18.182
191	11.33	156	63.359	12.25	188	35.353
192	30.50	129	66.743	30.50	199	7.253
197	25.30	136	66.099	25.80	201	10.602
226	29.75	132	64.967	28.00	187	20.213
243	20.40	148	60.931	18.80	203	16.015

Means

    21.84   142.8   63.847   21.77   200.2   13.940

Differences between:

        Mean Ratings   = +49.907

        Mean Word Length   = +57.4

        Mean Sentence Length = -.07

TABLE 13

ENGLISH PASSAGES WITH FAIRLY DIFFICULT RATINGS USING FLESCH INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	ENGLISH			SPANISH		
	sl	wl	Ratings	sl	wl	Ratings
52	47.50	127	51.180	56.50	224	-40.175
63	20.00	155	55.405	20.00	213	6.337
65	27.50	151	51.170	21.50	169	42.038
75	21.80	150	57.808	20.60	209	9.112
179	36.00	133	57.777	28.60	165	38.216
91	24.20	150	55.372	26.20	205	6.812
95	31.00	148	50.162	52.00	217	-29.527
127	25.25	145	58.535	25.75	207	6.230
198	20.00	156	54.559	23.20	196	17.469
135	15.83	156	58.789	17.50	233	2.117
136	20.40	156	54.159	20.40	206	11.853
141	22.25	148	59.047	28.25	217	-5.415
296	17.10	160	54.126	15.30	197	24.644
178	42.00	133	51.687	26.00	203	8.707
187	31.66	137	58.798	32.00	189	14.461
220	38.00	137	52.363	38.00	201	1.781
228	37.30	139	51.381	36.30	204	-2.593
236	23.10	146	59.872	20.75	192	23.342
241	11.33	164	56.591	12.50	228	1.259
246	25.25	144	59.382	28.75	179	17.041

Means

     26.87   146.75   55.408   27.51   202.7   7.690

Differences between:

        Mean Ratings   = 47.718

        Meand Word Length   = 55.95

        Mean Sentence Length = 0.64

TABLE 14

ENGLISH PASSAGES WITH DIFFICULT RATINGS USING FLESCH INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	ENGLISH			SPANISH		
	sl	wl	Ratings	sl	wl	Ratings
55	51.50	142	34.430	28.75	240	-25.386
58	38.30	141	48.674	21.40	187	26.912
59	37.00	148	44.072	22.20	206	10.026
61	18.00	168	46.437	21.40	214	4.070
76	37.60	152	40.079	33.00	183	18.512
80	38.00	155	37.135	26.50	210	2.278
94	38.00	148	43.057	52.00	217	-29.527
105	20.60	172	40.414	18.80	209	10.939
115	25.70	162	43.697	25.50	202	10.060
124	35.00	154	41.026	37.30	223	-19.722
130	23.00	158	49.822	33.30	216	- 9.700
137	17.50	168	46.944	23.40	250	-18.416
170	21.20	167	41.173	22.00	252	-27.657
172	21.20	164	46.571	23.80	229	-11.089
176	18.10	172	42.953	18.40	190	29.425
185	32.30	151	46.304	25.50	203	9.630
188	46.00	134	46.781	46.30	208	-16.127
193	48.50	138	42.551	49.50	200	-12.607
224	34.50	163	33.920	33.30	189	13.141
225	36.00	171	25.629	38.00	196	2.449

Means

$$31.9 \qquad 156.4 \qquad 42.083 \qquad 30.00 \qquad 212.2 \qquad -1.639$$

Differences between:

Mean Ratings = -43.722

Mean Word Length = +55.8

Mean Sentence Length = -1.9

Correlations of Ratings and Variables for Rearranged Passages,

Using Flesch Reading Ease Index.

Ratings: $r = .991$

sl: $r = .994$

wl: $r = .994$

TEST NO. 3

MODIFIED FARR-JENKINS-PATERSON READING EASE INDEX

Tables 15 to 19

TABLE 15

PASSAGES WITH EASY RATING USING THE MODIFIED FARR-JENKINS-PATERSON INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	Number of Words	ENGLISH			Number of Words	SPANISH		
		nosw	sl	Ratings		1 & 2sw	sl	Ratings
2	101	79	7.20	87.496	94	84	6.70	95.998
4	103	76	6.86	83.044	98	73	6.53	78.582
5	100	77	5.88	85.278	93	85	5.47	98.848
8	102	76	5.67	84.272	100	82	5.50	94.018
9	98	81	8.17	89.709	92	72	7.67	75.828
10	101	76	6.31	83.602	101	86	6.31	99.593
18	103	78	6.43	86.679	88	63	5.55	63.587
21	97	78	8.08	85.004	87	70	7.25	73.055
23	98	79	9.80	84.857	88	69	8.80	69.882
24	102	78	8.50	84.577	96	75	7.38	80.917
25	100	77	10.00	81.456	98	71	9.80	71.965
26	97	75	8.05	82.207	92	69	7.50	71.201
27	104	80	8.00	88.263	95	71	7.30	74.602
29	97	79	10.77	83.872	93	75	10.33	77.923
33	100	77	8.33	83.151	87	73	7.25	77.851
34	103	79	9.36	85.304	99	72	9.00	74.476
35	100	79	8.30	86.379	91	73	7.58	77.516
200	103	76	7.00	82.902	107	84	7.20	95.491
203	101	81	9.10	88.600	103	79	6.00	88.814
205	98	76	6.70	83.207	111	83	8.00	93.080
Means		77.8	7.92	84.99		75.5	7.36	81.66

Differences between:

nosw and 1 & 2sw = 2.3

sl   = .36

Ratings   = 3.33

TABLE 16

PASSAGES WITH FAIRLY EASY RATINGS USING THE MODIFIED FARR-JENKINS-PATERSON INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	Number of Words	ENGLISH			Number of Words	SPANISH		
		nosw	sl	Ratings		1 & 2sw	sl	Ratings
1	100	71	6.25	75.668	96	67	6.00	69.526
11	97	72	5.70	77.825	102	76	6.00	83.917
12	98	71	6.50	75.770	89	56	5.56	52.383
13	100	72	5.50	78.028	100	73	5.55	79.577
17	95	70	6.33	73.988	89	71	5.93	75.993
22	99	74	7.60	79.095	89	76	5.93	83.988
28	99	72	8.25	75.237	87	60	7.90	56.404
45	98	72	10.88	72.568	96	71	10.77	71.080
46	102	71	11.33	70.512	96	80	9.67	86.588
58	115	91	38.30	75.115	107	78	21.40	71.484
64	102	75	17.00	71.153	97	61	16.10	64.388
72	99	85	24.75	79.277	96	77	24.00	67.246
76	113	92	37.60	77.427	99	87	33.00	74.101
79	111	86	35.00	70.472	107	73	28.60	56.181
195	101	70	5.60	74.729	104	74	6.50	80.212
196	102	68	5.30	71.836	103	73	7.10	78.003
197	98	84	25.3	77.119	107	81	25.80	71.815
198	101	73	9.90	75.161	103	70	8.75	71.532
199	101	71	10.10	71.761	100	78	11.3	81.735
201	105	76	19.00	70.722	107	87	23.2	84.048

Means   75.8   14.81   74.67   73.5   13.45   73.010

Differences between:

        nosw and 1 & 2sw = 2.3

        sl   = 1.36

        Ratings   = 1.66

TABLE 17

PASSAGES WITH STANDARD RATINGS USING THE MODIFIED FARR-JENKINS PATERSON INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	Number of Words	ENGLISH			Number of Words	SPANISH		
		nosw	sl	Ratings		1 & 2sw	sl	Ratings
15	99	66	7.07	66.841	102	89	7.28	103.405
36	98	66	10.88	62.974	87	70	9.74	70.527
37	100	69	11.10	67.547	102	78	11.50	81.532
38	100	68	10.00	67.065	97	75	9.70	78.563
39	99	69	9.90	68.765	93	65	9.30	62.978
42	98	67	9.80	65.669	98	80	9.80	86.456
56	94	74	23.50	62.956	102	71	17.00	80.286
57	101	69	16.85	61.711	105	70	13.10	67.116
62	108	74	18.00	68.539	107	80	21.40	74.682
65	110	80	27.50	68.490	86·	60	21.50	42.600
71	101	76	25.20	64.429	97	73	24.20	60.647
74	100	74	20.00	66.509	98	67	19.60	55.722
75	109	76	21.80	67.880	103	76	20.60	69.098
80	114	82	38.00	61.031	106	76	26.50	63.109
132	104	73	17.33	67.620	104	74	17.33	69.219
141	89	75	22.25	65.824	113	80	28.25	67.729
149	98	78	30.00	62.755	107	74	36.00	50.269
194	102	65	8.67	63.618	114	58	5.70	55.440
207	100	68	10.20	66.862	106	57	8.41	51.090
235	97	71	16.00	65.772	109	72	16.30	67.066

| Means | | 72 | 17.7 | 65.64 | | 72.3 | 16.66 | 67.88 |

Differences between:

nosw and 1 & 2sw = - .3

sl = +1.04

Ratings = -2.24

TABLE 18

PASSAGES WITH FAIRLY DIFFICULT RATINGS USING THE MODIFIED FARR-JENKINS-PATERSON INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	Number of Words	ENGLISH			Number of Words	SPANISH		
		nosw	sl	Ratings		1 & 2sw	sl	Ratings
30	97	60	9.70	54.577	89	58	8.09	53.014
40	100	58	8.30	52.800	102	72	8.50	74.983
43	102	62	10.20	57.268	98	64	9.80	60.872
44	94	64	11.25	58.893	90	74	11.25	75.390
48	96	64	12.00	58.639	91	62	11.33	52.191
49	97	63	16.10	52.878	94	68	13.40	63.614
50	102	62	12.70	54.730	103	66	11.55	62.294
53	98	67	25.00	50.241	107	57	21.70	37.601
55	103	84	51.50	50.526	115	77	28.75	62.425
68	104	61	15.00	50.797	98	61	14.00	51.812
73	94	66	19.60	54.123	98	61	18.20	47.549
127	101	69	25.25	53.185	103	69	25.75	52.678
128	100	69	25.00	53.439	93	64	23.20	47.271
139	98	61	8.17	57.729	104	68	8.67	68.415
142	102	68	20.40	56.509	104	62	18.80	48.539
145	93	63	13.30	55.770	101	71	16.83	64.930
146	103	63	17.10	51.863	92	59	15.30	47.293
172	106	69	21.20	57.296	119	71	23.80	57.855
176	109	64	18.10	52.447	102	58	18.40	42.549
182	101	59	8.75	53.943	106	59	8.50	54.196

Means   64.8   17.43   54.38   65.1   15.79   56.27

Differences between:

nosw and 1 & 2sw = -.3

sl   = 1.64

Ratings   = -1.89

TABLE 19

PASSAGES WITH DIFFICULT RATINGS USING THE MODIFIED FARR-JENKINS-PATERSON INDEX, AND THEIR SPANISH EQUIVALENTS

Passage Number	Number of Words	ENGLISH			Number of Words	SPANISH		
		nosw	sl	Ratings		1 & 2sw	sl	Ratings
41	103	57	10.30	49.171	111	63	11.10	41.964
47	100	59	14.30	48.309	101	56	12.60	45.238
54	98	63	32.60	36.131	107	59	21.60	40.900
59	103	72	37.00	46.056	115	71	22.20	59.479
62	105	57	26.20	33.033	99	60	24.60	39.094
63	100	60	20.00	44.123	100	60	20.00	44.123
69	94	68	31.60	45.141	102	64	31.00	39.354
78	106	74	42.00	44.179	104	67	26.00	49.226
88	102	59	25.50	36.941	104	68	26.00	50.825
89	106	60	21.20	42.905	120	69	30.00	48.364
90	104	64	34.60	35.700	107	72	35.60	47.477
91	97	60	24.20	39.860	105	68	26.20	50.622
106	103	59	20.60	41.915	95	56	18.80	38.945
115	103	67	25.70	49.530	102	69	25.50	52.931
122	105	63	35.00	33.695	112	73	37.30	47.350
133	98	52	14.00	37.421	98	63	14.00	55.010
135	98	56	15.83	41.960	110	66	17.50	56.254
136	102	60	20.40	43.717	102	63	20.40	48.514
137	105	54	17.50	37.066	117	66	23.40	50.266
170	106	60	21.20	42.905	110	63	22.00	46.890

| Means | | 61.2 | 24.48 | 41.500 | | 64.8 | 23.29 | 47.64 |

Differences between:

nosw and 1 & 2sw = -3.6

sl = +1.19

Ratings = -6.14

Modified Farr-Jenkins-Paterson Index--Correlations

Correlations

Ratings:	r =	.996
nosw and 1 & 2sw:	r =	.941
sl:	r =	.923

Average Sentence Length (in words)
Longitud Promedio de Oraciones (en palabras)

Table 20.-- MODIFIED FARR-JENKINS-PATERSON READING-EASE INDEX TABLE*

No. of One-Syllable Words per Hundred Words (To rate Spanish, count one-and two-syllable words. Use the same table).
Número de Palabras de Una y Dos Sílabas. (1 & 2 sv) (Para Inglés cuente sólo las palabras de una sílaba. Use la misma tabla).

	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38	36	34
6	97	93	90	87	84	81	77	75	71	68	64	61	57	55	52	48	45	43	39	36	32	30	26	23	20	16
7	96	92	89	86	83	80	76	74	70	67	63	60	56	54	51	47	44	42	38	35	31	29	25	22	19	15
8	95	91	88	85	82	79	75	73	69	66	62	59	55	53	50	46	43	41	37	34	30	28	24	21	18	14
9	94	90	87	84	81	78	74	72	68	65	61	58	54	52	49	45	42	40	36	33	29	27	23	20	17	13
10	93	89	86	83	80	77	73	71	67	64	60	57	53	51	48	44	41	39	35	32	28	26	22	19	16	12
11	92	88	85	82	79	76	72	70	66	63	59	56	52	50	47	43	40	38	34	31	27	25	21	18	15	11
12	91	87	84	81	78	75	71	69	65	62	58	55	51	49	46	42	39	37	33	30	26	24	20	17	14	10
13	90	86	83	80	77	74	70	68	64	61	57	54	50	48	45	41	38	36	32	29	25	23	19	16	13	9
14	89	85	82	79	76	73	69	67	63	60	56	53	49	47	44	40	37	35	31	28	24	22	18	15	12	8
15	88	84	81	78	75	72	68	66	62	59	55	52	48	46	43	39	36	34	30	27	23	21	17	14	11	7
16	87	83	80	77	74	71	67	65	61	58	54	51	47	45	42	38	35	33	29	26	22	20	16	13	10	6
17	86	82	79	76	73	70	66	64	60	57	53	50	46	44	41	37	34	32	28	25	21	19	15	12	9	5
18	85	81	78	75	72	69	65	63	59	56	52	49	45	43	40	36	33	31	27	24	20	18	14	11	8	4
19	83	80	77	74	71	68	64	62	58	55	51	48	44	42	39	35	32	30	26	23	19	17	13	10	7	3
20	82	79	76	73	70	66	63	60	57	54	50	47	44	41	38	34	31	28	25	22	18	16	12	9	6	2
21	81	78	75	72	69	65	62	59	56	53	49	46	43	40	37	33	30	27	24	21	17	15	11	8	5	1
22	80	77	74	71	68	64	61	58	55	52	48	45	42	39	36	32	29	26	23	20	16	14	10	7	4	
23	79	76	73	70	67	63	60	57	54	51	47	44	41	38	35	31	28	25	22	19	15	13	9	6	3	
24	78	75	72	69	66	62	59	56	53	50	46	43	40	37	34	30	27	24	21	18	14	12	8	5	2	
25	77	74	71	68	65	61	58	55	52	49	45	42	39	36	33	29	26	23	20	17	13	11	7	4	1	
26	76	73	70	67	64	60	57	54	51	48	44	41	38	35	32	28	25	22	19	16	12	10	6	3		
27	75	72	69	66	63	59	56	53	50	47	43	40	37	34	31	27	24	21	18	15	11	9	5	2		
28	74	71	68	65	62	58	55	52	49	46	42	39	36	33	30	26	23	20	17	14	10	8	4	1		
29	73	70	67	64	61	57	54	51	48	45	41	38	35	32	29	25	22	19	16	13	9	7	3			
30	72	69	66	63	60	57	53	50	47	44	40	37	34	31	27	24	21	18	15	11	8	6	2			
31	71	68	65	62	59	55	52	49	46	43	39	36	33	30	26	23	20	17	14	10	7	5	1			
32	70	67	64	61	58	54	51	48	45	42	38	35	32	29	25	22	19	16	13	9	6	4				
33	69	66	63	60	57	53	50	48	44	41	37	34	31	28	24	21	18	15	12	8	5	2				
34	68	65	61	59	56	52	49	46	43	40	36	33	30	27	23	20	17	14	11	7	4	1				
35	67	64	60	58	55	51	48	45	42	38	35	32	29	26	22	19	16	13	10	6	3					
36	66	63	59	57	54	50	47	44	41	37	34	31	28	25	21	18	15	12	9	5	2					
37	65	62	58	56	53	49	46	43	40	36	33	30	27	24	20	17	14	11	8	4	1					
38	64	61	57	55	52	48	45	42	39	35	32	29	26	23	19	16	13	10	7	3						
39	63	60	56	54	51	47	44	41	38	34	31	28	25	22	18	15	12	9	6	2						
40	62	59	55	53	50	46	43	40	37	33	30	27	24	21	17	14	11	8	5	1						

*Reproduced by permission of Dr. James J. Jenkins, coauthor of the original Farr-Jenkins-Paterson Reading Ease Index. Modified to include 6, 7, 8, 39 and 40-word sentences (average).

APPENDIX C

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