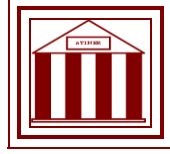


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**Identifying and Classifying the
Readability Levels of Turkish
Texts**

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Identifying and Classifying the Readability Levels of Turkish Texts

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Abstract

This study aimed to identify and classify the readability levels of Turkish texts. The sample in the Correlation Survey model included 32 Turkish instructional texts. The texts included in the sample of the study were administered to groups of 30 students, extending from the fifth class to the twelfth class. The cloze readability procedure was used in this research. Obtained data were analyzed in the SPSS program.

In this research the relationship between the readability of texts and variables such as average word length, average sentence length, number of polysyllabic words, and the rate of repeated words was determined by the Pearson product-moment correlation analysis. As a result of this analysis, “the rate of repeated words” and the rate of polysyllabic words, which express the similar meanings with average word length and -.677 with the readability index, as measured by the cloze scores, were not included in the multiple regression analysis.

As a result of multiple regression analysis, regression equation is:

$$CS = 118,823 - 25,987 \times AWL - .971 \times ASL$$

According to this, one unit of change in average word length causes -25.987 unit change in readability score, and one unit of change in average sentence length causes -.971 in readability score. On the other hand, the coefficient determination of the equation was .739.

Later, the averages of exact score for every class were analyzed by ANOVA test. As a result of this ANOVA test, resulting education level and cloze test scores are higher. Moreover, in order to determine the significant differences among the classes, multiple comparisons were made. According to this, there were not any significant differences among the classes 5-6-7 between the classes 8-9 and among the classes 10-11-12.

Finally, as a result of the regression analysis and ANOVA tests, the conversion table was composed.

Key words: Readability, Cloze Readability Procedure, Reading Education

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An important proportion of competent sustainability of the processing and sense-making process of the reader is formed by the linguistic properties constituting the text.

In the English body of literature it can be observed that readability formulas have been widely utilized for the purpose of assessing the structural difficulty of the text and matching the reading instrument with the target reading group in an objective manner. It can be observed that works for defining and classifying the readability levels of English texts started in the 1920's and intense works are continuing today with regards to this matter.

Reading is the process of processing, interpreting, and making sense of signs and symbols by the brain perceived through vocal organs and the eyes. The skill of reading enables the student to encounter new information, events, cases, and experiences by accessing various sources.

There are three generally accepted approaches in the literature for the definition and classification of reading levels of texts. These are: (1) Expert Opinion, (2) Cloze readability procedure and (3) Readability Formulas (Klare, 1963).

Texts are examined in terms of characteristics such as sentence characteristics, word characteristics, content knowledge, etc. and are classified by specialists in the field of reading according to the extent they are relevant for the target reader group; however, as this technique fails to provide an objective assessment like the cloze readability procedure and readability formulas, it is not widely accepted. At the same time, the assessment process requires a lot of time.

The cloze readability procedure is observed to be a more objective definition and classification technique (Rye, 1982). Basically, it is used in the determination of the structural difficulty of texts and determination of the reading level of students. Cloze scores obtained by many researchers through the cloze readability procedure are used in the development of formulas as criterion (Bormuth, 1969; Taylor, 1953). In this study cloze readability procedure scores have been used as criterion.

In conducted studies it is evidently ascertained that in the process of processing and making sense of texts by the reader, the linguistic properties constituting the text influence this process either positively or negatively (Flesch, 1948; Powers, Summer and Kearl, 1958; Klare, 1963-1968). A significant proportion of these studies consists of readability formula studies. Readability formulas are prediction instruments with the purpose of gradually classifying texts according to their difficulty or easiness based on the structural characteristic of the text. Readability formulas are generally in the form of regression equations. It can be observed that formulas developed for the purpose of determining and classifying the readability level of various languages, particularly English, are based on linguistic variables concerning word and sentence characteristics determined to be reliable and valid in conducted studies in terms of convenience of utilization.

It can be observed that there are no adequate studies in the Turkish literature on the concept of readability, in other words, readability formulas.

In most of few conducted studies there are researches conducted for the compatibility of the match-up of the readability of texts composed for a grade in a certain stage of education and the student level. In some of these studies, it can be observed that the readability formula developed by Ateşman (1997) has been utilized and in the other studies it can be observed that formulas such as “Fog” and “Smog” developed for the purpose of defining and classifying the readability levels of English texts have been used; however, in literature it is stated that a readability formula developed for a certain language provides invalid results in the determination of the readability of texts in other languages and conducted studies suggest this in an apparent manner (Klare, 1984; Dubay, 2004). Furthermore in a study conducted by Köse in 2009 it has been evidently ascertained that the “Gunning Fog Index” and “Flesch Reading Ease” formulas provide invalid results in the determination of the readability of Turkish texts.

On the other hand, adequate explanations on the functioning and purpose of readability formulas have not been encountered in the Turkish literature. As specified, readability formulas are generally in the form of regression equations. In formulas extensively used for the purpose of determining the readability levels of English texts, it can be observed that the variables of “average word length”, “average sentence length”, and “rate of word with three or more syllables” have been used. The rate of effects of the said variables on texts in another language can vary. It can be said that the result in the study of Köse (2009), in other words, the invalid results provided by formulas used for determining the readability of English texts when defining Turkish texts are due to this reason.

Those selecting reading texts for a specific group of readers must determine the readability level of the texts. In line with this requirement, there is a need for applicable criteria for determining the structural difficulty of the text.

Purpose of the Study

This study aims to define and classify the readability levels of Turkish texts by developing a formula for predicting the readability score of texts based on linguistic characteristics unique to Turkish.

Within the framework of the aforementioned purpose, the questions, whose answers have been sought in the study, are as follows:

1. Is there a significant relation between “rate of words with four or more syllables”, “average word length”, “rate of repeated word stems”, “average sentence length” and cloze score and a relation among predictor variables?
2. Is it possible to develop a formula that calculates readability scores for Turkish texts?

3. Is there a significant difference between the average cloze scores of the 4th, 5th, 6th, 7th, and 8th grades of primary school and the 9th, 10th, 11th, and 12th grades of secondary school?

Methodology

In this section there are details on the research design, universe and sample, measurement instruments, and how the determination of variable and analysis of data were conducted. In the section of data analysis, the variables used in the study and performed statistics have been explained.

Research Design

This study aims to determine criteria for defining and classifying the readability levels of texts through the relation between values to be obtained by taking the various quantitative characteristics of Turkish texts and the cloze readability procedure score mentioned in the previous section as criteria. As the determination of an existing case has been aimed in the study and as the subject of the study is attempted to be defined within its own conditions as it is, the relational screening design was considered to be a suitable one for the study.

Universe and Sample

The universe of this thesis study, which has the basic objective of the definition and classification of the readability levels of Turkish texts, consists of expository and narrative types of texts. The sample consists of the 32 aforementioned texts. The word and sentence length properties of texts included in the study are presented in Table (1).

Table 1. Word length and sentence length properties of texts used in the study

	Word Length (syllable)	Sentence Length (word)
Lowest	2.25	6.83
Highest	3.22	27.9

Study Group

In the selection of schools, where applications were to be applied, the facilitation to be provided for the performance of the works and the positive perspectives of school administrations were taken into consideration. In line with these factors, in the 2009-2010 academic years, the applications were applied to a total of 240 students studying in the 5th, 6th, 7th, 8th, 9th, 10th, 11th, and 12th grades at an official primary school and Anatolian Vocational High School of Commerce affiliated to the Ministry of National Education.

Prior to the selection of students participating in the study, the purpose of

the study and the cloze readability procedure were presented to the students and voluntary students were included in the study. Meetings were conducted with the class teachers of the students and information was received on the personal characteristics and academic achievement of the students and students with high motivation and academic achievement were preferred.

Data Collection Instrument

In the first stage of the study, expository and narrative types of texts with lengths of 250-300 words were selected. In terms of the reliability and validity of the cloze procedure, it was necessary to omit 50 words from each text to be applied. After the texts with the specified characteristics were compiled, it was analyzed in terms of “average word length”, average sentence length”, and “rate of repeated word stems “constituting the foundation of the readability formula. Among independent variables, care was taken for the avoidance of excellent linear relations and texts with different linear relations in terms of variables were included in the study. This is because, from a statistical perspective, it is stated that for variables with excellent linear relations among themselves the value “b” would be the same. In other words, we are unable to tell which variable is important (Field, 2005). After these procedures are completed, the texts were ordered starting from the one with the lowest average sentence length to the one with the highest average sentence length.

In the second stage of the study, the texts were processed as follows in line with process steps specified in the study conducted by Bormuth (1967: 1-2):

1. Without deleting the words in the first sentence, starting from the second sentence, every fifth word was underlined and this procedure was continued until 50 words were reached. After reaching 50 words, the remaining sentences were left as they were.

2. When the texts were being formatted, the font was applied as “Times New Roman”, the font style as “normal”, and font size as 12. Double space was left between lines. Gaps of 12 graphemes were left for each underlined word and an answer key with words gaps left for embedded in it was developed.

3. An explanation text was prepared in order to inform students participating in the study about the study. Accordingly, it was stated that the purpose of this application was not to test them but rather to evaluate their background information. It was stated that there was no time limitation when filling out gaps in the handed text, they first had to read the text as a whole and they had to write the word they believed necessary for each gap.

4. When assessing the words filled in by students, the word exactly the same as the omitted word was accepted to be correct. Other words synonymous with the omitted word were not accepted to be correct. Even though there were spelling mistakes in the word filled in by the student in place of the omitted word, it was accepted to be correct. The number of words correctly filled in by the student in the text was taken as the raw score and this

score was multiplied by two and the required result for evaluation was obtained. For instance, if there were 35 correct words, then the result of the assessment was $2 \times 35 = 70$.

After the 32 texts in the sample of the study were structured through processing according to the aforementioned process steps and students in the study group were informed on what cloze procedure is and the cloze readability procedure practice and evaluation stage were moved on to.

Data Collection

Applications within the framework of the study were performed in a period of four weeks with maximum two texts each day. In the preliminary application conducted on a 30-person reader group, it was observed that the reader could maintain the motivation to read and answer in the second text, but lost these in the third text. Due to these specified reasons, no more than two applications were applied to each group each day.

Prior to initiating the application, the readers in the study group were informed on what the cloze procedure was and how it would be implemented through an application of a text with 25 gaps and they were also prepared for the application. For each text, the session was completed in approximately 30 minutes. Prior to initiating the cloze procedure, an instruction was read out to the students on how the gaps would be filled and also was handed out to them. The instructions are as follows:

Data Organization

In the data organization stage, the procedures specified in the data collection section were implemented and the arithmetic mean of obtained scores was taken and the scores of separate classes for each text were taken. In other words, the arithmetic average for correct gap filling of 30 readers in the 5th class was taken for Text 1 and this operation was repeated for all classes and texts. The values obtained through this procedure were defined as the dependant variables of the study and encoded as "CS".

The relation between the average sentence length, average word length, and rate of repeating word stems of texts previously selected as predictor variables and the cloze procedure results of students accepted to be dependant variables was observed.

Data Analysis

The statistical technique used for the analysis of questions, for which answers are sought in the study, have been provided below for each problem and the significance level of 0.05 was adopted for accepting or refuting the hypotheses established for the questions, for which answers were sought in the study.

In the first question of the study, the relations between the selected variables and the readability scores of the texts and the relations among the independent variables were calculated using the Pearson's Correlation Coefficient and the obtained correlation coefficients were tested against the

hypothesis that “the correlation coefficient of the universe is actually zero”.

In order to answer the second question, multiple regression analysis was utilized. The correlations of the variables desired to be subjected to the multiple regression analysis were examined and by taking care for both avoiding a high correlation among independent variables and enabling to provide a significant relation with the cloze score, the variables in the correlation table were analyzed.

In order to answer the third question, an ANOVA test was conducted in order to determine whether or not there was a significant difference between the cloze scores obtained by each grade in the study group from the texts in the sample.

FINDINGS and INTERPRETATIONS

The purpose of this study is to define and classify the readability levels of Turkish texts. In line with this purpose, the obtained findings were interpreted by providing tables, figures, and explanations according to the sub objective.

First Question of the Study:

Is there a significant relation between “rate of words with four or more syllables”, “average word length”, “rate of repeated word stems”, “average sentence length” and cloze score and a relation among predictor variables?

In line with the basic purpose of the study, by means of the correlation analysis of variables considered to be related to the readability of texts, the direction and power of the relations were attempted to be ascertained. On the other hand, as a result of the correlation analysis besides the relation power of the variables, the determination of the relation among them was also set as an objective.

In the multiple regression analysis, a problem defined as collinearity could be encountered among predictor variables. If the problem is present for more than two variables it is called multicollinearity. Such a problem can come into question if the correlation coefficients between predictor variables are over 0.80 regardless of their marks. In such a case, the researcher includes only one of these variables by taking the hypothetical foundation of the problem into consideration and can exclude the other one (Büyüköztürk, 2004:95-96).

As specified above, the basic purpose of the study is to define and classify the readability level of Turkish texts. In line with this basic purpose, primarily for the purpose of determining the relational direction and power of variables considered to be related to the readability of texts the Pearson’s Correlation Coefficient Analysis was conducted.

The connection observed in the value of variables are called relations. In every relation analysis, there are three things that need to be taken into

consideration. These are whether or not there is a relation and if there is a relation, its significance, the direction of the relation, and the degree of the relation. Whether or not there is a relation is determined through significance tests. If the variables take increasing or decreasing values together, the relation is in the plus (+) direction; if while one of the variables is increasing, the other one is decreasing, the relation is in the minus (-) direction. The number of relations is determined with the determination of the correlation coefficient (Karasar, 2005, s.219). As a result of the correlation analysis conducted with the use of dependent and independent variables, the following table was composed. Table (2) contains both the predicted variable and also the direction and level of relations among predictor variables. The explanation of abbreviations used in relation to dependant and independent variables in the table has been specified once more below for reading convenience.

Dependant variable:

CS: Cloze Score

Independent Variables:

RW4MS: Rate of words with four or more syllables

AWL: Average word length

RRWS: Rate of repeated word stems

ASL: Average sentence length

Table 2: Correlations between rate of words with 4 or more syllables, Average Word Length, Rate of Repeated Word Stems, and Average Sentence Length, which are all Predictor Variables, and Cloze Score, which is the predicted variable, and the Correlations among Predictor Variables

		CS	RW4MS	AWL	RRWS	ASL
CS	Correlation	1,00	-0,677	-0,748	0,344	-0,707
	Sig. (2-tailed)		0,000	0,000	0,054	0,000
RW4MS	Correlation	-0,677	1,00	0,861	-0,111	0,361
	Sig. (2-tailed)	0,000		0,000	0,545	0,043
AWL	Correlation	-0,748	0,861	1,00	-0,294	0,436
	Sig. (2-tailed)	0,000	0,000		0,102	0,013
RRWS	Correlation	0,344	-0,111	-0,294	1,00	-0,129
	Sig. (2-tailed)	0,054	0,545	0,102		0,480
ASL	Correlation	-0,707	0,361	0,436	-0,129	1,000
	Sig. (2-tailed)	0,000	0,043	0,013	0,480	

N=32

When Table (2) above is examined, it can be observed that there is a negative and significant relation between cloze scores and RW4MS $r = -0,677$ ($p < 0,05$), a negative and significant relation between cloze scores and AWL $r = -0,748$ ($p < 0,05$), a positive but insignificant relation between cloze scores and RRWS $r = 0,344$ ($p > 0,05$), and a negative and significant relation between

cloze scores and ASL $r = -0,707$ ($p < 0,05$).

As a result, according to the data of the correlation analysis conducted between CS, the dependant variable of the study, and RW4MS, AWL, RRWS, and ASL, which are the independent variables of the study, it was observed that there was no statistically significant relation between CS and RRWS. Thus, RRWS was not included in the regression analysis. Furthermore, as RW4MS and AWL, which are among the variables of RW4MS, AWL, and ASL with statistically significant relations with CS, have similar significance and have statistically significant relations among them and as the RW4MS variable demonstrates a lower degree relation with CS, it was not included in the regression analysis.

Second Question of the Study:

Is it possible to develop a formula that calculates readability scores for Turkish texts?

Above, findings regarding the correlation analysis were interpreted. As a result of the conducted correlation analysis, the variables of AWL and ASL having a statistically significant relation with CS were included in the regression analysis.

Multiple linear regressions is a type of analysis for predicting the value of the dependant variable based on two or more independent variables (predictor variable) that have relations with the dependant variable. Multiple regression analysis enables the interpretation of the total variance explained on the dependant variables by the predictor variables, the statistical significance of the explained variance, the statistical significance of predictor variables, and the relation between predictor variables and the dependant variable (Büyüköztürk, 2004:94). The mathematical model for the multiple linear regression analysis can be formulated as follows for the two variables:

$$Y = a + b_1X_1 + b_2X_2$$

The common effect of independent variables on dependant variables is examined with R^2 . This value provides the variance rate explained by all variables together in Y (Büyüköztürk, 2004:94).

In multiple regression analysis regression coefficients cannot be used in the interpretation of the relative order of importance in relation to the dependant variables of independent variables with different units of measurement and variances. For this purpose, the β (beta) values, which are standardized regression coefficients, are looked at regardless of their marks. The variable with the highest beta value is the relatively most important predictor. The β^2 value can also be used as the relative important measure of predictive variables. β^2 can be interpreted as the contribution made by each predictor variable in the prediction of each dependant variable. An X_i variable has a variance that is not shared by other variables in Y and this variance degree is β^2 (Büyüköztürk, 2004:95).

Table 3: Analysis results concerning the Prediction of Cloze Scores by AWL and ASL Variables

Model	β	Std. Error	t	Sig.	Correlation	
						Partial
Fixed	118,823	13,206	8,998	0,000	-	-
AWL	-25,987	5,040	-5,156	0,000	-0,748	-0,692
ASL	-0,971	0,218	-4,460	0,000	-0,707	-0,638

The regression analysis results pertaining to the prediction of the readability of texts according to the variables of average word length and average sentence length have been provided in Table (3).

When bilateral and partial correlation between predictive variables and the dependant (predicted, criterion) variable are analyzed, it can be observed that there is a negative and high level relation between the average word length and the readability of texts ($r=0.75$); however, when the other variable is checked, it can be observed that the correlation between the variables is calculated as $r=0.69$. On the other hand, there is a negative and high level relation between the average sentence length and the readability of texts ($r=0.71$); however, when the other variable is checked, it can be observed that this correlation is calculated as $r=0.64$.

Together the variables of the average word length and the average sentence length provide a high and significant relation with the cloze scores ($R^2=0.74$).

According to the standardized regression coefficient (β), the relative order of importance of predictor variables over the cloze scores is average word length and average sentence length. When the results of the t-test pertaining to the significance of regression coefficients are examined, it can be observed that the variable of both average and word length is an important (significant) predictor over the cloze score.

The probability values of coefficients in the model were determined to be (sig.) 0.000. As it is $0.000 < 0.05$ (α) the coefficients in the model are statistically significant with a reliability of 95%.

According to the results of the regression analysis, the regression equation in relation to the cloze score (mathematical model) has been provided below.

$$CS = 118,823 - 25,987 \times AWL - 0,971 \times ASL$$

When the equation above is observed, a 1 unit change in sentence length led to a 25.987 unit reverse change in the readability score (average correct score). Likewise, a 1 unit change in average sentence length led to a 0.971 reverse change in the readability score (average correct score).

As specified before, the coefficient of the developed equation was determined to be $R^2 = 0,739$. The variables of the average word length and average sentence length explain 73.9% of the total variance in relation to the readability scores of texts. In other words, the average word length and the average sentence length have an effect of 73.9% of the readability scores of texts.

Third Question of the Study

Is there a significant difference between the average cloze scores of the 4th, 5th, 6th, 7th, and 8th grades of primary school and the 9th, 10th, 11th, and 12th grades of secondary school?

As a result of the ANOVA test conducted for the purpose of comparing the cloze procedure score averages of each grade in the study group on the 32 texts constituting the sample, a significant difference was determined between the cloze score averages of the grades with a reliability of 95%.

Table 4: Results of the Anova Test in relation to the Significance of the Differences among Grades

Grade Level	N	\bar{X}	S		
5 th Grade	32	23.15	9.88		
6 th Grade	32	25.60	9.91		
7 th Grade	32	27.01	10.48		
8 th Grade	32	32.40	10.94		
9 th Grade	32	30.74	10.45		
10 th Grade	32	35.61	9.31		
11 th Grade	32	35.60	10.26		
12 th Grade	32	37.96	9.25		
Source of the Change	Sum of Squares	sd	Average of Squares	F	p
Among Groups	6389,253	7	912.750	8.993	0.000
In-Group	25170,289	248	101.493		
Total	31559,543	255			

When Table (4) above is examined, it can be observed that cloze score averages regarding grades in relations to the grades increase as the grade level increases. Furthermore, in multiple comparisons conducted for the purpose of investigating the source of the significant difference between the cloze score averages of the grades it was determined that there was statistically significant difference between the 5th, 6th, and 7th grades and the 8th and 9th grades and the 10th, 11th, and 12th grades.

Findings pertaining to the first, second, and, third study questions above were interpreted through tables and explanations. With the conducted correlation analysis, the relation direction and power of variables considered to be related to the readability of Turkish texts were determined. Accordingly, it was determined that the average word length and the average sentence length were effective predictors with regards to the readability of Turkish texts. Afterwards, the AWL and ASL variables, which have statistically significant relations with CS, were included in the regression analysis. Furthermore, an ANOVA test was conducted based on the average cloze scores of the grades. According to the findings of this test, it was determined that the level of education was a distinguishing characteristic. However,

according to the results of the multiple comparisons, no significant difference could be determined between 5th, 6th and 7th, 8th and 9th and 10th, 11th and 12th grades.

In multiple choice tests, Thorndike (1916) interprets scores of 50% as educational reading and scores of 80% as independent reading. This approach, which Thorndike takes as a basis, is generally accepted in the literature. In addition to this, Bormuth's study suggests that a cloze score less than 35% is equal to a score of 50% obtained from a multiple choice test. Furthermore, it is stated that cloze scores in the 35-50% range are equal to multiple choice test scores ranging between 50-60% and cloze scores in the 50-60% are equal to multiple choice test scores in the 70-80% range. In this study in the prediction of approximate readability scores obtained with the readability prediction equation developed and formulated through a conducted regression analysis, according to Bormuth's approach an interpretation table was formed. An interpretation was attempted on which level of education scores obtained according to the results of the conducted ANOVA test is approximately suitable for. In the hypothetical section of the study, as mentioned, the level of education and the level of reading may not always be in the expected relation. Thus, an approximate interpretation based on the cloze scores of readers in the study group was attempted. For the purpose of it being a correct practice, it is a requirement for persons selecting a reading instrument for a certain reader group to know the reading level of the target group in addition to the structural difficulty of the text. Within the framework of such a requirement, the objective determination of the reading level of the reader can be performed through the use of various techniques.

Table 5: Definition and Classification of the Readability Levels of Turkish Texts

Readability Score	Readability Level	Education level
0 - 34	FRUSTRATION LEVEL	10 th , 11 th , and 12 th grades
35 – 50	EDUCATIONAL LEVEL	8 th and 9 th grades
51 +	INDEPENDENT READING	5 th , 6 th , and 7 th grades

According to Table (5) above, it has been attempted to bring forward a proposal within the framework of general acceptance in the literature for the interpretation of readability scores obtained as a result of the operation conducted with the regression equation formulated in the study.

Two measurements are used in the "Çetinkaya-Uzun Readability Formula": (1) Average Word Length, (2) Average Sentence Length. Through the instructions below, it is possible to determine the readability scores of texts.

Count the Words

Numbers, graphemes, symbols, and grapheme sets with gaps in between are accepted as words. Words and abbreviations separated with hyphens are accepted to be words. For instance:

Gel-git (come-go)

O.T.U (A.S.L)

Count the Sentences

Every unit considered being grammatically independent from the other object or sentence is accepted to be a sentence. Those ending with a full stop (.), question mark (?), colon (:), and two parentheses () are accepted to be sentences.

Count the Syllables

Count the syllables as phonated. For instance;

Gel (come) is accepted to be 1 syllable

Gelsin (let him come) is accepted to be 2 syllables

Gidelim (let's go) is accepted to be 3 syllables

Symbols and figures are accepted as phonated. For instance;

Cm is accepted to be 4 syllables

Find the average sentence length

In order to determine the average sentence length, divide the total number of words into the number of sentences.

$$ASL = \frac{\text{Total number of words}}{\text{Total number of sentences}}$$

Find the average word length

In order to determine the average word length, divide the total number of syllables into the total number of words.

$$AWL = \frac{\text{Total number of syllables}}{\text{Total number of words}}$$

Calculate the formula

Insert the average sentence length and average word length, which you have obtained through the operation steps you have performed above, into their spaces in the readability formula equation below. The formula equation determining the readability levels of texts is as follows:

$$RS = 118,823 - 25,987 \times AWL - 0,971 \times ASL$$

RS= Readability Score

ASL= Average sentence length

AWL= Average word length

For the purpose of concretizing the procedure conducted above by placing the average sentence length and average word length values determined as a result of the implementation of the operation steps stated above in their spaces in the formula equation, the example of the operation performed with the values of Text 10 in the sample of the study is as follows:

Text 10: How do athletes take nourishment?

AWL=2.72

ASL=13.08

$$RS = 118.823 - 25.987 \times 2.72 - 0.971 \times 13.08$$

$$25.987 \times 2.72 = 70.68464$$

$$0.971 \times 11.32 = 10,99172$$

$$118,823 - 70,68464 = 48,13836$$

$$48,13836 - 10,99172 = 37,14664$$

$$RS = 37,14664$$

As a result of the procedure conducted by implementing the instruction stages above, the readability level of the aforementioned text was determined as 37.15. The determined readability value provides a prediction concerning the structural difficulty of the text. When interpreted according to Table (5) in the findings section, the determined value indicates that the text is at an educational level and is for students of the 8th and 9th grades within the framework of the study. As stated before, in order to have the reader process the present text in a competent manner, the required reading point is stated to be 35 in the cloze procedure. On the other hand, the structural difficulty rate required for the text to be made sense of by the reader with a competency of 90% is at a rate of 35% when the cloze procedure is taken as a criterion. In cases where the readability of the text is acceptable in terms of the conformity with the properties of coherency and consistency, it would be suitable to determine the readability level of the text with this value.

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