THE RELATIONSHIP BETWEEN ACADEMIC ACHIEVEMENT AND READING COMPREHENSION AMONG SEVENTH GRADE STUDENTS

by

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ABSTRACT

THE RELATIONSHIP BETWEEN ACADEMIC ACHIEVEMENT AND READING COMPREHENSION AMONG SEVENTH GRADE STUDENTS

The purpose of this study was to determine the relationship between reading comprehension and academic achievement of seventh graders in Büyükçekmece Lisesi, including 20 living in the Büyükçekmece Orphanage.

Two measures used in determining the relationship were grades and reading comprehension scores. Academic achievement as reflected in grades were obtained from the students' 1982-83 academic year, and the first semester of 1983-84 general grade point average, and averages for Turkish and Mathematic courses.

The reading comprehension scores were obtained from two Informal Reading Inventories, developed particularly for the purpose of this study. The lack of reading tests in Turkish necessitated the development of these inventories. The major part of the study, thus, constituted the work on the inventories. Piloting for the validity of the texts chosen for reading, and the difficulty of comprehension questions was accomplished before finalizing the inventories for use in the evaluation of reading performance. The level of comprehension was the criterion in determining reading performance. There were three levels of reading comprehension. Ninety per cent comprehension of the material read corresponded to independent level, 51-89 per cent comprehension corresponded to instructional level, and 50 per cent and below corresponded to frustration level in reading.

The procedure included the administration of the Informal Group Reading Inventory to all 248 seventh graders. Of this group, 20 students living in the Büyükçekmece Orphanage was also tested individually by use of the Informal Individual Reading Inventory. The aim here was to collect information on the details of the reading skills of a group of seventh graders. This particular orphanage group was taken because of convenience and the special interest of the investigator. This group was also expected to be relatively poor readers compared to students living with their parents. Deprived environments in which they have grown-up could have negative effect on their reading and achievement levels. The findings, in fact, supported this expectation. The achievement and the reading comprehension levels of the orphanage students were inferior to those students living with their parents.

To test the main hypothesis of this study, the data obtained were analyzed by use of correlation, and chi-square techniques. The Pearson Product Moment Correlations obtained between grades and reading comprehension scores of 248 seventh graders were .48 (grade point average), .49 (Turkish) and .46 (Math). They were all significant at the .005 level. These correlations indicate that 21-24 per cent of variation in academic achievement could be explained by reading comprehension scores. The chi-square analysis also confirmed the significant relationship between academic achievement and reading comprehension and supported the main hypothesis.

The same hypothesis was also tested using the orphanage group, i.e., the small group of 20 students. They were administered both the group and the individual reading inventories. Significant relations were found between the grade point average, the Turkish grades and the reading comprehension scores obtained from the group inventory. These

data also support the hypothesis. Correlations between the individual reading scores and the Math grades, as well as the grade point average were not significant. This lack of significance can perhaps be explained by the homogeniety of the orphanage group, and therefore, small variance.

The most overall significant finding in both groups was on the relationship between Turkish grades and reading comprehension scores.

When the students were classified into independent, instructional and frustration level categories, on the basis of their reading scores, the majority fell in the category of instructional level readers. This suggests that special emphasis be given to reading programs in schools. With a remedial approach to reading, the comprehension level of students can be improved from instructional to independent level.

The study failed to control (1) the selection of participants included in the pilot-study on the validity of the inventories, (2) the validity of the formula used in determining the readability of texts, (3) the number of participants in the Informal Individual Reading Inventory, and (4) the testing conditions.

With these limitations in mind, the findings were interpreted to indicate that reading comprehension problems are relatively widespread among Turkish seventh graders and the majority are functioning at the instructional level. A significant relationship between academic achievement and reading comprehension encouraged the investigator to suggest the development of remedial reading programs in schools to help increase the level of reading comprehension of students from instructional to independent.

Ö Z E T

YEDİNCİ SINIF ÖĞRENCİLERİNİN OKUL BAŞARILARI İLE OKUDUKLARINI ANLAMALARI ARASINDAKİ İLİŞKİ

Bu çalışmanın amacı, Büyükçekmece Lisesi'ndeki yedinci sınıf öğrnecilerinin okul başarıları ile okuduklarını anlamaları arasındaki ilişkiyi araştırmak idi. Çalışmaya Büyükçekmece Lisesi'nden 248 yedinci sınıf öğrencisi katıldı. 248 öğrencinin 20'si Büyükçekmece Yetiştirme Yurdu'nda kalmaktaydı.

Araştırmada öğrencilerin okul notları ile okuma ölçeklerinden aldıkları puanlar değerlendirme için kullanıldı. Öğrencilerin okul başarılarının ölçümünde 1982-83 ders yılı sonu notları ile 1983-84 I. dönem sonu genel not ortalamaları ve Türkçe ve Matematik not ortalamaları dikkate alındı.

Öğrencilerin okudukları metinleri ne derece anlayabildikleri bu araştırma için geliştirilen Serbest Okuma Ölçek'leri aracılığıyla ölçüldü. Daha önce Türkçe için geliştirilmiş herhangi bir okuma testi olmadığı için bu ölçeklerin geliştirilmesine gerek duyuldu ve bu alandaki çalışma araştırmanın çok önemli bir bölümünü oluşturdu. Geliştirilen ölçeklerdeki okuma parçalarının ve o parçalarla ilgili hazırlanan soruların öğrenciler için zorluk ve geçerlilik derecelerini saptamak için bir ön çalışma yapıldı. Bu ön çalışmanın sonucunda geliştirilmiş olan Grup Serbest Okuma Ölçeği ile Bireysel Serbest Okuma Ölçeği'nin kullanılabileceğine karar verildi.

Öğrencilerin okuduklarını anlama dereceleri, 3 değişik anlama seviyesi göz önüne alınarak değerlendirildi. Bunlar serbest, yönlendirici ve zorlayıcı okuma seviyeleriydi. Serbest okumada öğrenci okuduğu parçanın yüzde 90'ını, yönlendirici okumada yüzde 51-89'unu, zorlayıcı okumada ise yüzde 50

ve daha aşağısını anladığı kabul edilir.

248 yedinci sınıf öğrencisine Grup Serbest Okuma Ölçeği uygulandı. Bu grubun içinde olan ve Büyükçekmece Yetiştirme Yurdu'nda kalan 20 öğrenciye ayrıca Bireysel Serbest Okuma Ölçeği verildi. Bireysel Serbest Okuma Ölçeği'nin uygulanmasında amaçlanan yedinci sınıf öğrencilerinin Türkçe okuma beceri ve alışkanlıklarıyla ilgili bilgi toplamaktı. Yetiştirme yurdunda kalan öğrenciler bu çalışmaya araştırmacının kendileriyle olan yakın ilişkisi nedeniyle katıldılar. Ayrıca bu öğrencilerin okuduklarını anlama seviyelerinin aileleri ile birlikte yaşayan sınıf arkadaşlarına oranla daha düşük olacağı bekleniyordu. Araştırmanın sonuçları da bu beklenti doğrultusunda oldu. Yetiştirme yurdunda kalan öğrencilerin hem okul başarıları, hem okuduklarını anlama seviyeleri sınıf arkadaşlarından daha düşük bulundu.

Araştırmanın hipotezini desteklemek için toplanan veriler korelasyon ve ki-kare kullanılarak değerlendirildi. 248 yedinci sınıf öğrencisinin notları ile okuduklarını anlama puanları arasındaki ilişkiyi saptamakta Pearson Momentler Çarpımı Korelasyon tekniği kullanıldı. Okuma puanları ile genel not ortalamaları için .48'lik, Türkçe için .49'luk, Matematik için .46'lık korelasyon katsayıları bulundu. Korelasyon katsayılarının tümünün .005 seviyesinde anlamlı olduğu saptandı. Bu bulgu öğrencilerin okul başarısındaki varyansın yüzde 21-24'ünün, okuma puanları ile açıklanabileceğini göstermektedir. Ki-kare analiz sonuçları da bu ilişkiyi destekleyici niteliktedir. Bu bulguların ışığında, çalışmanın hipotezi olan okul başarısı ile okuduğunu anlama arasındaki ilişki 248 yedinci sınıf öğrencisi için doğrulanmıştır.

Çalışmanın hipotezi yetiştirme yurdunda kalan 20 öğrenci için ayrıca ölçüldü. Bu ölçümde 20 öğrencinin hem Grup, hem de Bireysel Serbest Okuma Ölçek puanları dikkate alındı. Grup Okuma puanları ile genel not ortalamaları ve Türkçe or-

talamaları arasında anlamlı bir ilişki saptandı. Bireysel Okuma Puanları ile Matematik notları ve genel not ortalamaları arasında ise anlamlı bir ilişki saptanamadı. Bu bulgu yurtta kalan öğrencilerin homojen bir grup olmaları ve okuma puanları ile okul notları varyanslarının düşüklüğü ile açıklanabilir.

Her iki grupta da Türkçe ortalamalar ile okuma puanları arasında anlamlı ilişki olduğu gözlendi.

Öğrenciler okuma puanlarına göre serbest, yönlendirici veya zorlayıcı okuma seviyelerinde, okul başarılarına göre ise başarılı ve başarısız olarak sınıflandırıldılar. Okuma kriterine göre sınıflandırmada grup ve bireysel test puanları, okul başarısına göre sınıflandırmada ise genel not ortalamaları ile Türkçe ve Matematik ders notu ortalamaları dikkate alındı. Sonuçta hem başarılı, hem başarısız kategorideki öğrencilerin büyük bir çoğunluğunun yönlendirici okuma seviyesinde bulundukları görüldü.

Bu araştırmada; (1) ön çalışmaya katılan öğrencilerin seçimi sırasında bir kriter kullanılamamış, (2) okuma parçalarının okunabilirliklerini hesaplamada kullanılan formülün geçerliliği saptanamamış, (3) Bireysel Serbest Okuma Ölçeği'ne katılan öğrenci sayısının az olması engellenememiş, ve (4) uygulama mekânı kontrol edilememiştir.

Çalışmanın sonuçları, yukarıda sıralanan sınırlamaları da göz önünde tutularak, şu şekilde değerlendirildi; Yedinci sınıf örğnecilerinin büyük bir çoğunluğunun okuduklarını anlamada zorluk çektikleri anlaşıldı. Öğrencilerin önemli bir kısmının yönlendirici seviyede okudukları, okul başarıları ile okuma puanları arasında ise anlamlı bir ilişki olduğu saptandı. Bu bulgular ışığında okullarda okuma becerisini geliştirici programların hazırlanması öngörülmektedir. Bu programların hedefi öğrencileri serbest okuma seviyesine yükseltmek olmalıdır.

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I. INTRODUCTION

School is perceived as a place in which students are prepared to acquire competencies in different areas. Cognitive, social and affective development of students include important competencies expected to be acquired through school life. In achieving many of these competencies, reading serves as a basic tool.

Evaluation of competencies and skills in school is generally known as academic achievement which has long challanged the educational researchers. Factors contributing to academic achievement have been studied, and a multitude of variables were identified. For purposes of simplicity, these factors are classified into two groups in this study as: (1) individual differences among students, and (2) quality of instruction.

Variables under the category of individual differences are taken to be personality characteristics (level of intelligence, motivation, belief in personal control, and affective entry characteristics of the learner), and skill development (prior achievement, cognitive entry behaviors, and reading skills) of the students.

The category of the quality of instruction, as coined by Bloom (1976), includes the way of teaching, and the environment for learning.

Among factors related to academic achievement, reading constitutes a major field of research for educators. The relationship between reading comprehension and academic achievement (Thorndike, 1973; Bloom, 1976) have led many researcher to investigate further on the reading process, reading problems and reading remediation. Gradually, guidelines, procedures and techniques for preventing, diagnosing and remediating reading problems were developed.

Educational research in Turkey has hardly ever covered these issues. Although the importance of developing good reading skills in school are given lip service, empirical efforts on the subject are no where to be found. This is an important gap in the Turkish educational system and can be verified in daily observations. Students experiencing academic failure, for instance, often demonstrate difficulties in reading. Informal observations of this investigator on the failing sixth and seventh grade students, living at an Orphanage, showed that a good majority of them were not able to read a given text efficiently and correctly.

These observations motivated the investigator to develop an empirical approach to study the relationship between reading skills and academic achievement in secondary school students.

A review of literature in the area revealed two studies (Bornovalı, 1981; Razon, 1970) on the Turkish Language. Both of these studies concentrated on the development of diagnostic instruments in reading Turkish. One of them, the Bornovalı study (1981), developed an individual reading inventory for primary school students. This approach was adopted also for the design of the present study.

II. STATEMENT OF THE PROBLEM AND HYPOTHESIS

In almost any educational system, the term "academic achievement" corresponds to evaluation of student's performance in school. No matter which tool or method is used, this evaluation basically categorizes the student as achiever or non-achiever. Ideally all systems of education aim to decrease the number of pupils falling in the category of non-achiever.

Why does a student fail? Or what makes him a non-achiever in school?

Research on the topic has helped to identify several factors that contribute to academic failure. One of these factors is noted to be reading comprehension. A literature survey on the subject revealed significant correlations (ranging from about .40 to .70) between reading comprehension and academic achievement in various subject areas. Although these correlations do not lead to causation, they provide important data. These data tell us that as high as 50 per cent of variance in academic achievement can be explained by reading comprehension (Bloom, 1976; Thorndike, 1973).

Based on this background and expectations therefrom, the present study was conducted. The purpose was to demonstrate the existance of a similar relationship between reading comprehension and academic achievement among Turkish students.

To achieve this purpose, an informal reading inventory for Turkish language was necessary to be developed, so that reading comprehension of seventh grade students could be assessed.

The study hypothesized the existance of a relationship between reading comprehension and academic achievement among the seventh grade Turkish students.

It was also hoped that during the course of this investigation it would be possible to collect data on specific reading habits of Turkish seventh graders.

III. CONCEPTS IN READING

In this section various concepts in reading such as comprehension, readability, reading as a visual process, reading difficulties and diagnosis will be presented and discussed. A brief overview of conceptual background is hoped to facilitate an understanding of the relationship between reading comprehension and the complex behavior we refer to as academic achievement.

3.1. Defining Reading

Reading has been defined in various ways by people with different conceptual backgrounds. Presentation of new perspectives have often ended up with new approaches to the subject.

Three different approaches were derived from an examination of different reading definitions. The first group of definitions focuses on visual aspects, the second group on the cognitive aspects, while the third group of definitions concentrates on the linguistic aspects of reading.

The visual approach has been emphasized mostly in "phonic-centered" and "word-centered" models. Although both of these models define reading basically as identification and recognition of graphic symbols (Journal of Educational

Reserach, 76, p.261), they regard comprehension to be quite important.

A different approach, emphasizing cognitive aspect of reading, formed the basis for the second group of definitions. In this approach, reading is combined with the thinking process. Here comprehension is defined to be a cognitive process and recognized as an important aspect of reading. The readers' prior experiences, and predictions based on these experiences serve as guidelines leading to meaningful perception of a text being read (Athey, 1983; Miller, 1973; Dechant, 1973).

As linguistics came into the scene, capturing the interest of many educators, a new approach was developed in defining reading in terms of concepts they introduced. This approach will be summarized in detail here due to its current popularity noted in literature survey on reading.

The Linguistic Approach In Reading. The linguistic approach as represented by Goodman (Gunderson, 1970) and Smith (1971) here includes complex conceptualizations and definitions of reading. For Goodman, predictions and expectations, and for Smith, reducing uncertainty, are essential elements in the reading process.

Goodman defines reading as an interaction between thought and language. In his terms, reading is a "psycholinguistic guessing game" (Gunderson, 1970, p.108).

Selection of necessary cues and anticipation of those which have not been seen are considered crucial in guessing. Cues are sources of information that people use while reading. There are three types of cues: graphic, syntactic and semantic

Graphic cues are the printed symbols such as letters, words and punctuation marks present in a given text. Syntactic cues are related to the grammatical aspect of the language used. The main point is how much a reader knows about the grammatical pattern of the language that he/she reads in. Semantic cues, on the other hand, are related to one's knowledge on the topic he/she is reading. Reading takes place via the predictions and anticipations formulated on the basis of these cues.

"Miscue" is another term presented in this conceptualization. Goodman prefers to use "miscue" instead of "error", and he rejects the view that every deviation in oral reading is to be treated as a "miscue". If the miscue appears to have almost no effect on the comprehension of what is read, then it is better not to spent effort to correct it. Such corrections are believed to force the reader to pay more attention to graphic cues, and less to syntactic and semantic ones.

A skilled reader, is defined as someone who makes accurate guesses during reading rather than one who reads precisely. As a person becomes skilled in reading, he/she relies more upon semantic cues and less upon graphic cues.

Smith's conceptualization focuses on the reduction of uncertainty in reading. "The reduction of letter, word, or meaning uncertainty" are regarded to be three aspects of reading. These are independent of each other in a way that a reader may use his/her information to reduce uncertainty in any one of these aspects without having a prior reduction in others.

Four kinds of information are utilized in reducing uncertainty. These are visual, orthographic (spelling), syntactic and semantic information. A reader needs these

information to identify letters, words and/or meaning. Information that facilitates meaning serves to generate comprehension. Comprehension, is considered an essential element in reading. In fact, Smith goes so far as to say that in absence of comprehension, the process should be termed as "word identification" rather than "reading" (Smith, 1971, p.4).

For Smith a skilled reader is one who has appropriate knowledge of the world, and of the language he/she uses. Such a reader utilizes less visual discrimination, since his/her prior knowledge reduces the number of alternative possibilities.

It is suggested that analysis of meaning, primarily by use of semantic information, leads the reader to predict the surface visual structure without spending time on it. The beginning reader, on the contrary, is one who extracts meanings from the surface visual structures (Smith, 1971, p.221).

Goodman's and Smith's conceptualizations coincide with each other at some points. They both emphasize the importance of comprehension as the basic element of reading. Cues and information are included in both views, and they are regarded to be essential ingrediants in comprehending a given text.

3.2. Reading Comprehension

Reading comprehension is extracting meaning from the printed material. It is a way of associating meaning to a printed text.

Comprehension can occur at different levels of cognitive functioning. Various levels of comprehension have been used by different authors. A detailed survey on the topic (Ergenç, 1982) revealed that levels suggested by Gary could be used as a guide in establishing a diagnostic instrument for the reading skills of students. Gary (Robinson, 1966, p.23) presents three levels of reading comprehension. These are: literal, inferential and evaluative levels. Literal comprehension covers information given explicitly in a text. Inferential comprehension refers to information the author tries to give implicitly in a text; and evaluative comprehension is judging and interpreting the author's ideas presented in a text.

3.3. Readability

Readabilty is a term commonly used in this area. It is a kind of matching between interests and reading skills of readers, and a range of reading materials that differ in style, content, and complexity (Gilliland, 1972, p.12).

The earliest definition of readability was given by Lorge (Hunnicutt and Iverson, 1958, p.187). This definition states the readability of a particular text as the number of people comprehending it.

In his later studies, Lorge suggested that more objective criteria are needed in determining readability. The criteria he formulated include percentage of uncommon words, average sentence length, and the number of prepositional phrases used in a given text.

Lorge believes that a formula based on these criteria may not always give precise or valid information on readability. Therefore, he suggested the readability index to be taken as an estimate, rather than a vigorous determination,

of the difficulty level of a given text (Hunnicutt and Iverson, 1958, p.187).

The readability formula developed by Lorge was the first one used in practical applications (Hunnicutt and Iverson, 1958, p.193). Later, other researchers have worked on the topic and came up with more efficient and applicable formulae. These different formulae are presented in the Bornovalı study (1981) where she grouped them under four categories on the basis of variables used as criteria in each formula.

One of these formulae, as presented in the Bornovalı study (1981) and claimed to be concise and efficient, has been suggested by Dale and Chall. In developing this technique, the authors tested the effectiveness of different variables and their combinations included in various readability formulae.

Two criteria were identified as being most effective in determining the readability of a text. They were: the percentage of uncommon words and the average sentence length.

The new formula developed by Dale and Chall was then used in determining the "estimated grade levels". This information indicates the levels at which a reading material can be comprehended (Hunnicutt and Iverson, 1958, p.196).

The Dale and Chall formula is as follows;

$$x_{c_{50}} = (.1579)x_1 + (.0496)x_2 + 3.6365$$

Here, $x_{c_{50}}$ represents the reading grade score, x_1 represents the percentage of uncommon words, and x_2 represents the

average sentence length (Hunnicutt and Iverson, 1958, p.198). According to this formula, as the number of uncommon words and the average sentence length of a given text increase, the text becomes harder to read, and the readability decreases.

It can be noted that the availability of a common word list is essential in the use of this formula. Dale cand Chall developed such a common word list in English*. In general, this list is taken as "a measure of familiarity in reading" (Hunnicutt and Iverson, 1958, p.197).

The Dale and Chall readability formula was also applied by Bornovalı (1981) in research with Turkish children on reading skills and by the present investigator. The readabilty level of printed texts were calculated with the help of this formula.

3.4. Reading as a Visual Process

The significance of visual process can not be overlooked in reading. Although visual aspects will not be considered in testing the hypothesis of this study, the investigator finds it important and will therefore briefly explain the relationship between the visual aspect of reading and comprehension.

Miller (1973) reviewed various studies conducted to explore the visual pathway of eyes during the act of reading. He recapitulated that eyes do not make continuous but rather "saccadic" movements across the page. Saccadic movements are

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*This list was developed from the words used in Dale's, Thorndike's, and Buckingham and Dolch's lists (Bornovalı, 1981, p.29; Hunnicutt, 1958, p.197). Dale and Chall gave this combined list to fourth graders; and if the word was checked as known by more than 0 per cent of the fourth graders, it was considered to be a common word.

defined as quick and short movements of the eye during which a person does not understand what he/she is reading. It can be considered a process of storing information, coded in graphic symbols for future decoding. Comprehension, which is really decoding symbols, takes place during "fixations", defined as the movements when the eyes come to rest. This is the time when the act of reading takes place.

Smith argues that there is not much difference between the skilled and the unskilled reader in the number of fixations used. The difference is in the amount of information received during a single fixation. A skilled reader picks up more information per fixation as compared to a less skilled reader (Smith, 1971, p.101).

3.5. Reading Difficulty and Its Assessment

A reader is defined to have reading difficulty if he/she can not comprehend a given text at his/her grade level. Wrong instruction, poor teaching, ineffective learning due to "emotional interference", lack of attention, and "neurological dysfunctioning" have been identified as some of the possible causes of reading difficulty (Byrant in Dechant, 1971, p.196).

All reading specialists agree that in order to develop techniques to cope with reading difficulty, it has to be properly diagnosed first. Diagnosis is the identification of weaknesses and strengths of a reader. As a continuous process, it includes both prevention and remediation.

Several techniques have been established for diagnosing reading difficulty. Miller (1973) has suggested a number of standardized survey, diagnostic and oral tests, projective techniques and informal inventories for this purpose.

Standardized survey reading tests are applicable to a group of people, and are helpful in screening and evaluating reading performance in general. Skills in "word meaning, sentence comprehension, paragraph comprehension, rate of reading and comprehension in content areas" are assessed by group reading tests. Research findings show, however, that these group tests usually overestimate the individuals' actual reading levels by one or two grades (Miller, 1973, p.53).

Standardized diagnostic reading tests are widely used in American schools. They can be administered individually or in a group. Educators prefer to give them to students who fail in standardized survey reading tests. They don't provide specific information on reading difficulties, however.

Oral reading tests are used not only to assess oral reading performance and comprehension but also as supplementary device for diagnosing specific reading problems. Miller advises the use of these tests, following standardized diagnostic group reading instruments.

In the administration of an oral reading test, a paragraph is read aloud by the student, and errors are marked by the teacher. Following oral reading, the teacher asks comprehension questions and records the studends' answers.

Projective techniques help to evaluate the student's attitude toward himself/herself, and toward the reading problem. This is interpreted, by Miller, as a realistic view which is useful with moderately and severly disabled readers (Miller, 1973, p.62).

Structured or open-ended reading autobiography, can also be used. Through an open-ended autobiography, a creative story, or a drawing one can find something more about a student and his/her reading performance.

Informal reading inventory is presented as the most useful diagnostic technique by many specialists. It is helpful in evaluating a student's reading performance with respect to texts varying in difficulty. It is called "informal", since there is no one specific method, and none of the methods are standardized.

Due to its significance for this study, detailed information on this subject is presented in the following section.

3.6. Informal Reading Inventories

Ruth Strang (1964, p.191) suggests informal reading inventories as the best and the quickest way to assess students' comprehension levels.

In this technique, no established norms exist to compare the performance of one student to that of another. Instead, performance is evaluated in terms of absolute standards like independent, instructional and frustation levels in reading. The standards are suggested by Mc Cracken (Dechant, 1971, p.95) as follows;

At independent level a student can function on his/her own. Symptoms like finger pointing, lip movement and vocalization are not observable during reading. The word recognition accuracy within a context is 99 per cent, and the comprehension score is 90 per cent or more. If the student is reading orally, the text should sound rythmical. This level is regarded as a key criterion in reading. Ideally all reading materials presented to a student must be at his/her independent level so that he/she can comprehend without much difficulty (Dechant, 1971, p.95).

Instructional level of reading is defined as the state at which there is at least 95 per cent of word recognition accuracy within a context, and 51 per cent comprehension accuracy. At this level, a student can read rythmically or with a certain difficulty.

Frustration level in reading indicates that a child is unable to manage reading a given text. The criteria are 94 per cent or less accuracy in word recognition within a context, and 50 per cent or less accuracy in comprehension.

Informal reading inventories can be administered in a group situation, called Group Reading Inventory, or individually, called Individual Reading Inventory.

Group Reading Inventory is used to get an idea about the reading proficiency of students in a class situation. Individual Reading Inventory, however, is suggested as a bridge between group tests and the more advanced standardized individual tests (Strang, 1964, p.191).

In a Group Reading Inventory, students are asked to read a selection silently. After they are finished with reading, comprehension questions are given in printed forms and the students are asked to answer on their own. Comprehension questions include both open-ended and multiple choice items. When students finish answering, they check their own responses. Afterwards, a class-discussion is held. The students whose scores are below 50 per cent on this group test are recommended to be administered Individual Reading Inventory (Strang, 1964, p.130) in six steps (Miller, 1973, p.67). They are:

a) Establishing a good rapport with the student.

b) Dictating and reading a language-experience story. The reader is asked to write a story which is based on his/

her own experiences. Then he/she is asked to read it out loud. The reason for this is to understand how well the student can read the material which is obviously familiar to him/her.

c) Giving a word recognition test. This is to measure the reader's immediate recognition of a given word in isolation.

d) Giving graded reading paragraphs. Here, the reader is asked to read graded paragraphs orally and/or silently. Then comprehension questions are asked.

e) Giving inventories on phonetic analysis, structural analysis and context clue usage.

IV. SURVEY OF LITERATURE

In this literature survey, the influential factors related to school achievement will be considered under two categories; (a) the quality of instruction, and (b) the individual differences among students. Variables under the category of individual differences are further grouped into personality characteristics and skill development areas.

Bloom (1976, p.118) stated that what really contributes to learning is the quality of instruction (the way of teaching, and the "environment for learning") rather than teacher characteristics and physical attributes of the classroom.

Directions or "cues" for the learners, participation of the learner, reinforcement, and feedback are proposed as important aspects of the quality of instruction. It is argued that directions or cues account for 14 per cent, participation and reinforcement 6 per cent each, and feedback accounts for 22 per cent of the variance in students' academic achievement.

The second group of factors closely related to achievement is individual differences. Belief in personal control, affective entry characteristics, level of intelligence and motivation are categorized under this group. Skill development includes prior achievement, cognitive entry behaviors, and reading comprehension.

Belief in one's responsibility over his/her school success/failure can act as a predictor of academic achievement. Walden and Ramey (1983) found a strong relationship between belief in personal control and school achievement.

Affective entry characteristics as presented by Bloom (1976) include subject-related affect, school-related affect and academic self-concept. The combined effect of these three variables on school achievement is presented by a regression coefficient of .50, meaning that these variables account for 25 per cent of the student variance in achievement (Bloom, 1976, p.97).

Recent studies investigating the effect of intelligence versus the effect of motivation on achievement, and intervention programs developed in this context have revealed that motivation for achievement is a more potent factor than the level of intelligence (Walden and Ramey, 1983). This is similar to what Bloom has suggested as intelligence accounting for less than 10 per cent of variance in school learning, when the effect of prior achievement is held constant. Bloom (1976, p.39) also found high correlation (r=.90) between achievement measures at adjacent years.

What Bloom calls cognitive entry behaviors (necessary prerequisites for a given task) include previous learning and skill development. Empirical studies demonstrated that these account for a considerable (r=.50) percentage of variance in the later achievement of students (Bloom, 1976, p.47).

The one very important educational skill in achievement has been found to be reading comprehension (Flanagan, 1964; Thorndike, 1973; Kraus, 1973; Bloom, 1976).

According to Thorndike (1973, p.168), achievement in a

content area is clearly related to achievement in reading comprehension at elementary and early secondary school levels. Research showed that correlations between achievement in reading comprehension and achievement in literature are around .70 (Flanagan, 1964; Thorndike, 1973; Bloom, 1976). In the Iowa Test of Basic Skill Technical Manual, the relationship between achievement and reading is given as .74 at Grade 7 (Bloom, 1976, p.237).

Correlation between achievement in science and reading comprehension center around .60 (Thorndike, 1973, p.168). Bloom (1976, p.49) presents a correlation between reading comprehension and achievement in mathematics of .72. Kraus (Bloom, 1976, p.239) came up with higher correlations between reading and achievement in mathematics, i.e. r=.77, at Grade 6.

In one of his studies, Bloom (1976, p.42) determined that 64 per cent of variance in students' reading comprehension scores in one grade could be explained by their reading comprehension level in previous years.

Feschbach, Adelman and Fuller (1977) found that children who show deficit in reading comprehension in any year, will have a significant deficit in the following year with 50 per cent probability.

Reading comprehension inherits several factors among which environmental variables such as home and community play a relatively important part. Kelleghan (1977), for example, concluded that environmental factors are closely related to achievement in reading as well as in arithmetic.

Dave (presented in Kelleghan, 1977) showed the importance of home variables in reading achievement. His findings

indicated that 62 per cent of variation in word knowledge, and 53 per cent of variation in reading scores could be explained by home variables.

Similar outcomes are presented by Thorndike (1973). The characteristics of home and community in which a student has grown-up eventually influence their reading achievement at ages 10 and 14. In his study, Thorndike (1973, p.148) covered 15 countries. He found reading comprehension differences between the developed and the underdeveloped countries, the latter falling far behind in reading comprehension.

V. METHOD

This study attempts to demonstrate the degree of relationship between academic performance and reading comprehension of Turkish students at early secondary school years. The relationship is tested by using students' grades from the academic year of 1982-83 and the first semester of 1983-84, and reading comprehension scores obtained through techniques developed by this investigator.

The assumptions underlying the study were that,

a) Unless a student was enrolled in a remedial reading program, no significant changes occured in his/her reading skills between the two academic years, i.e. 1982-83 and 1983-84.

b) The 10 point grading system used in the Turkish education in evaluating the academic performance of students, is valid. Hence, deficiencies and difficulties of the grading system, and the criteria used in this evaluation are not considered.

c) Participants had no physical deficiencies like visual, auditory, speech, brain dysfunction or others.

5.1. Sample

The sample of this study was drawn from the Büyükçekmece Lisesi and Büyükçekmece Orphanage. The reason for including the Büyükçekmece Orphanage students was mainly because the investigator had worked with, and therefore knew the students living there. Rapport which is the first step in administering the Informal Individual Reading Inventory, had already been established between the investigator and these students. It was assumed that the boys in the orphanage were more likely to experience reading difficulties because of deprived experiential background (perceptually, cognitively, logically and socially) than those living with their parents. The Büyükçekmece Lisesi was chosen as the sample at large, because students in the orphanage were also attending that school.

Two groups of participants formed the sample. 1) The first group consisted of the seventh grade students at the Büyükçekmece Lisesi (N=248); 2) The second group of students (N=20) were drawn from the Büyükçekmece Orphanage. Since the orphanage is composed of male students only, the second group was all boys. Of the 21 orphanage students attending the seventh grade, one refused to be tested individually and was not included in this group.

No systematic sampling was used in the selection. All available participants, in both groups, were included in this study.

5.2. Variables

The variables taken into account were (1) reading performance, as the predictor variable, (2) academic achievement as the criterion variable, and (3) setting in which testing took place, as the extraneous uncontrolled variable.

Reading Performance. The main criterion for reading performance was comprehension. The percentage of correct responses to comprehension questions in a given text was used in determining the level of reading. Ninenty per cent of success classified the students as good readers.

Although, in the evaluation of reading performance, Mc Cracken recommended also the use of word recognition within a context, the latest views claimed comprehension to be a more important aspect of reading. Therefore, in determining reading performance only comprehension was used in this study. The standards for comprehension suggested by Mc Cracken (Dechant, 1971, p.95) for American students, were utilized here also. Accordingly 90 per cent comprehension of the material read corresponded to independent level, 51-89 per cent comprehension corresponded to instructional level, and 50 per cent and below corresponded to frustration level in reading.

A participant was classified as a good reader, if he/she read the seventh grade text at the independent level. A relatively poor reader was one who read the same text at the instructional level. Reading at the frustration level indicated the student to be a poor reader.

Academic achievement. The academic achievement of the students was determined on the basis of grades obtained during the 1982-83 academic year, and the first semester of 1983-84. The cumulative grade point average, and averages in Turkish and Math courses were considered for this evaluation. A student with a grade point average of 4.5 and above; and a course average of at least 4.5 and above was defined as achievers.

The setting. The setting in which individual testing

took place was the extraneous uncontrolled variable. While administering the Informal Individual Reading Inventory, the main problem was finding room to work in at the orphanage. Since no specific room was alloted for this purpose, different rooms (study rooms, the library or the administrator's office in the orphanage) were used for testing. Administration office was not a place the participants were used to going in. Therefore, it was felt that the students who were administered the test in this office did not feel comfortable as in the other rooms, which they were familiar with.

In the orphanage building the noise created by other students, outside the testing room, seemed to interfere with the concentration of the participants while being tested.

5.3. Instruments

For reading assessment, it was necessary to develop informal group and individual reading inventories. One story corresponding to seventh grade, for the Informal Group Reading Inventory; and two different stories corresponding to each of the third, fourth, fifth, sixth and seventh grades, for the Informal Individual Reading Inventory, were selected. Then the readability of each selection was determined.

In calculating the readability scores of different grade levels, a word frequency list, developed by Şahin (1981) was utilized. A detailed information for the development of informal reading inventories and calculation of the readability scores are given in the procedure section of this paper.

In addition, a tape-recorder was used for oral reading, an important part of the Informal Individual Reading Inventory.

5.4. Procedure

The lack of a proper assessment device in diagnosing reading problems in Turkish, necessitated this study to concentrate on the development of a diagnostic tool. Hence, the preparation of appropriate reading inventories constituted an important part of the study.

The discussions presented by Bornovalı (1981) were taken as a starting point and reference guide. A technique was developed similar to the informal reading inventories suggested there in.

The study was carried out in five stages: (1) the calculation of readability ranges for Grades 3-7, (2) the development of informal reading inventories, (3) a pilot study to measure the validity of these inventories, (4) test administration, and (5) the data analysis.

5.4.1. The Calculation of Readability Ranges for Grades 3-7

Development of an individual reading inventory required the utilization of a number of texts with increasing difficulty in reading. It was, hence, necessary first to calculate for different levels (Grades 3-7), the range of readability scores which would be quantitative measures of how difficult a text was to read. Grade 3 was taken as the lowest level, since it was not normally expected that the readability skill of a student at seventh grade could be lower than that of a third grade student.

The readability formula developed by Dale and Chall (Hunnicutt and Iverson, 1958, p.198) was used in calculating the difficulty index of given texts. The formula is:

$$x_{c_{50}} = (.1579)x_1 + (.0496)x_2 + 3.6365$$

This formula includes two variables: (1) percentage of uncommon words as represented by x_1, and (2) average sentence length as represented by x_2.

To determine the number of uncommon words in a given text, a Turkish common word list was required. Such a list was derived from the word frequency list developed by Şahin in 1981.

In developing this list, Şahin went through all the primary school books, some supplementary materials, and the children's books which were available at the Ankara Sami Ulus Children's Hospital (Bornovalı, 1981, p.38). The result was a frequency list of 5040 different words. In this list, words were grouped as nouns, adjectives and verbs. Then the frequency for each and every word was determined.

In compiling her own common words by using the Şahin frequency list, Bornovalı (1981) included the words with frequencies of 25 and above. The result was a 561 word list.

An interview with Bornovalı revealed that her 561 word list was not obtained from the final form of the Şahin's list, as the latter had not been completed then. Therefore, this investigator worked on a new version of the final form of Şahin's word list. The result was a 665 words with frequencie of 25 and above. This new list (Appendix A) was used in the calculation of readability scores in the present study.

A work-sheet which included all the steps to be carried out for the application of the formula (Appendix B), and the directions for filling it out (Appendix C) were developed by Dale and Chall. These, together with modifications done by

Bornovalı (see Appendix D), formed the basis of our calculations of readability ranges for different levels.

The following procedure was adopted from Bornovalı (1981) and it was carried out as indicated below:

a) Approximately 100 word-long selections were chosen as samples from every tenth page of each Turkish book. For elementary levels Türkçe 3, Türkçe 4 and Türkçe 5 were used. For secondary school levels Türkçe 1, Türkçe 2 and Türkçe 3 were used. If the selected sample page happened to be a poem or a part containing comprehension questions, which usually followed a reading text, the next text was taken as the sample. A sample never started or ended in the middle of a sentence.

b) The average length of sentences and percentage of uncommon words were figured out for each selected text. Using Dale and Chall's readability formula, readability scores were obtained for each sample reading selection.

c) The average of the readability scores, derived from the samples, was calculated separately for each Turkish text book.

d) The average score for each book was taken as the lower limit of the readability range corresponding to that particular grade level. At the same time this score was taken as the upper limit of the previous grade level. This method is used by Bornovalı (1981) in determining the readability ranges for each grade level.

The results obtained by use of this procedure are briefly presented in the following tables. A detailed description for obtaining average readability scores are given in Appendix G.

Table 1 shows the average sentence length, the percentage of uncommon words and the average readability scores obtained for books used in grades, three through eight.

TABLE 1- The Average Sentence Length, The Percentage of Uncommon Words, and the Average Readability Scores for Grade Levels Three Through Eight

Grades	Average Sentence Length	Percentage of Uncommon Words	Average Readability Scores
3	6.00	26	8.0700
4	7.32	29	8.6310
5	7.39	31	8.8322
6	7.73	33	9.2138
7	9.70	36	9.8270
8	10.57	36	9.8639

As this table suggests, average sentence length, percentage of uncommon words, and average readability scores increase consistently from one year to the next, except in the percentage of uncommon words at the eighth grade level.

The readability ranges associated with each grade level are summarized in Table 2. The readabilty range for grade eight is not given in this table because of the unavailability of the upper limit for that grade. The latter was not deemed necessary, because what was important for this study was to classify as good readers for text corresponding to the readability range of Grade 7. Therefore, the performance of the seventh graders in reading text from higher readability ranges, i.e. eighth grade or above, were out of the scope of this study.

TABLE 2- Range of Readability Scores Obtained for Grades Three Through Seven

Grades	Readability Ranges	Differences
3	8.0700 - 8.6309	.5609
4	8.6310 - 8.8321	.2011
5	8.8322 - 9.2137	.3815
6	9.2138 - 9.8269	.6131
7	9.8270 - 9.8638	.0368

Turkish text books used in determining readability scores and ranges at different grades, presented in Table 1 and Table 2, do not reflect any norms for those specific grade levels. There are practically no known standardized norms established for use in selecting texts for a particular grade level. Therefore, the obtained figures shown in these tables probably random approximations of grades for which the Turkish books were prepared.

Table 2 shows that the widest readability ranges were obtained for third and sixth grades, and the smallest range was in the seventh grade. It seemed difficult to find texts with readability scores falling within such a small range. therefore to overcome this difficulty, three more selections were chosen from every thirtieth page of the eighth grade Turkish text book. The results obtained from these selections are shown in Table 3.

It can be seen from this table that along with an increase in the average length of sentence, the upper limit of readability score for Grade 7 went from 9.8638 to 9.8811. This increased the range with a difference score of .0172. The percentage of uncommon words remained the same. The readability range of grade levels, including the new range obtained for seventh grade, are presented in Table 4.

TABLE 3- Average Sentence Length, Percentage of Uncommon Words and Average Readability Scores Obtained from the Three Eighth Grade Selections

	Scores Obtained From Previous Work	Scores Obtained From The New Eighth Grade Selections
Average Sentence Length	10.57	11.23
Percentage of Uncommon Words	36	36
Average Readability Scores	9.8369	9.8811

TABLE 4- Range of Readability Scores for Grades 3-7, Including the Revised Range and the Difference Score for the Seventh Grade

Grades	Readability Ranges	Differences
3	8.0700 - 8.6309	.5609
4	8.6310 - 8.8321	.2011
5	8.8322 - 9.2137	.3815
6	9.2138 - 9.8269	.6131
7	9.8270 - 9.8810*	.0540*

* The revised scores

Wide differences observed in readability ranges can be attributed to the absence of norms in Turkish text books used in the calculation of readability ranges.

In comparing the average readability scores obtained for grades three through five in the Bornovalı study (1981) with those of the present study (see Table 5), it was found that the reading materials used by Bornovalı had higher readability scores, therefore more difficult, than those used here.

TABLE 5- A Comparison of Average Readability Scores Obtained in Two Different Studies (Grades 3-5)

Grades	Average Readability Scores of the Bornovalı Study	Average Readability Scores of the Present Study	Difference
3	9.0284	8.0700	.9584
4	9.5566	8.6310	.9256
5	10.4885	8.8322	1.6563

It can perhaps be argued that the differences presented in Table 5 are a function of the differences in the common word lists and the books utilized in the two studies. The modification of the common word lists has already been discussed on page 26. The Turkish books used in obtaining the readability ranges in the Bornovalı study (1981) were Türkçemiz and Güzel Türkçe. She took the average of these two books for grade levels three through five. In the present study, however, one book for each grade was preferred, since only one Turkish text is recommended in the secondary school curriculum. To be consistent with higher grade levels, it was decided to utilize one text, namely Türkçe, in the elementary levels as well.

The comparison of the readability scores of the Bornovalı and the present study was based on those derived from one book in each study. The texts used in obtaining the readability scores were Türkçemiz in the Bornovalı study, and Türkçe in the present one. The limitation set by the different number of books utilized in calculations was hoped to be remedied this way. The results, however, revealed that the readability scores obtained for elementary levels, three through five, in the present study were still lower than those obtained by Bornovalı.

The results were also compared on the basis of average sentence length and the percentage of uncommon words obtained for each Turkish text (see Table 6).

TABLE 6- A Comparison of Average Length of Sentence and Percentage of Uncommon Words for Grades Three Through Five

Grades	Average Length of Sentences			Percentage of Uncommon Words		
	Bornovalı Study	The Present Study	Differences	Bornovalı Study	The Present Study	Differences
3	5.67	6.0	-.33	29.5	26.0	3.50
4	8.67	7.32	1.35	31.0	29.0	2.00
5	7.54	7.39	.15	37.0	31.0	6.00

Table 6 shows that in these two studies the differences between the average scores for sentence length were smaller than the differences between the percentage of uncommon words. An interpretation of these findings was that the differences observed in the readability scores (shown in Table 5) were probably a function of differences in the frequency lists used in the two studies.

5.4.2. The Development of Informal Reading Inventory

Once the readability range for different grade levels were determined, informal reading inventories were prepared. These informal inventories were developed both on group and individual basis.

For the Informal Group Reading Inventory, a reading sample text, with a readability score close to the readability range of seventh grade*, was selected. A total of 20 questions,

*Since the calculated range for seventh grade is very narrow, it seemed hard to find a selection falling within such a small range. It was decided to select a text with a score close to the range. The text, chosen for this purpose, had a readability score of 9.8927.

10 multiple-choice and 10 short-essay, were prepared for that particular selection. All questions were equally weighted, each with one point, and totaling to 20 points for the inventory. The evaluation scores ranged between zero and 20.

In preparing the multiple-choice questions, a group reading inventory developed by Shephard (Strang, 1964, p.127) was used as a guide. Vocabulary as well as word analysis questions were included in this section.

The short-essay questions were prepared to determine the level of comprehension of the text. The argument presented by Gary (Robinson, 1966, p.23) were taken into account in this preparation, so that four of the assay questions were literal comprehension, the other four were inferential comprehension, and the remaining two were evaluative comprehension items.

Strang advises to ask students, before administering the group inventory, to state their aim in reading (Strang, 1964, p.126). Since it would be impossible to have such a discussion with the students, a statement, briefly summarizing the content of the text, was prepared and given to the participants before they started reading. A full copy of this Informal Group Reading Inventory is presented in Appendex F.

For the Informal Individual Reading Inventory, two reading sample texts, falling within the readability range of each grade level (Grade 3-7) were selected*. Ten short-essay

*In the selection of texts, for the individual inventory, a problem of finding an appropriate sample for seventh grade came up as in the case in the Informal Group Reading Inventory. The calculated range for seventh grade is very narrow. Therefore, selection that has the readability score of 9.8930 which is above the upper limit of the calculated range was used. The second selection has the readability score, 9.8790; and it falls within the limits of this range.

comprehension questions, to test the literal, inferential and evaluative levels, and a brief explanation about the content (Bornoval1, 1981, p.54) were prepared for each section. In contrast to the Informal Group Reading Inventory, the number of questions corresponding to any one comprehension level was different for each selection. All questions were equally weighted, i.e. one point each, making up 100 points for the entire individual inventory scores.

Only two selections from sixth grade and one selection from seventh grade texts were taken from the Bornoval1 study (1981). Those selections were actually recommended for lower levels*. All other selections were chosen from different books or magazines.

Two separate forms of the reading material were prepared for each grade level. The student form included only the reading text, in printed form. This was to be distributed to participants. The other form constituted the examiner's copy, and had the explanatory statement and questions on it. A full copy of the two forms of the Informal Individual Reading Inventory is found in Appendix G.

A major difficulty, encountered in the preparation of the inventories, was the issue of validity: The validity of selected texts, and the validity of comprehension questions prepared for these texts. Although the selection of a reading piece for a particular grade level was based on the readability score calculated for that text, was it really valid for the students at that grade? Comprehension questions of the selections were formulated intuitively by the investigator. Were these questions prepared for testing the comprehension of the participant appropriate? To answer these questions, a

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* Utilization of different common word lists in the two studies resulted in inconsistencies between the readability scores of particular selections, and their corresponding grade level

pilot study was conducted.

5.4.3. A Pilot Study on the Validation of the Informal Group and Individual Reading Inventories

This pilot study was carried out both at the elementary and the secondary school levels.

For the elementary level, students were selected from Şişli Terakki İlkokulu and Türkân Şoray İlkokulu. For the secondary school level, students were selected from Şişli Terakki Lisesi and Davutpaşa Lisesi. These schools were preferred, because the former represented high-middle, and the latter represented lower socio-economic status (S.E.S.). If in fact the reading comprehension skill development is related to environmental factors and S.E.S. it would then be possible to find relatively more good readers in Şişli Terakki schools, than in Türkân Şoray İlkokulu and Davutpaşa Lisesi.

The piloting was carried out in two steps. First, each text, together with questions, was given to the class teachers at the elementary schools, and the Turkish teachers at the secondary schools. The teachers were assumed to have adequate experience and wisdom in selecting text and in preparing questions appropriate for students at particular grade levels. These teachers were asked to evaluate each given text, and the questions prepared on each text by the investigator.

In the feedback, several modifications related to questions were suggested by the teachers. Some questions were evaluated as either too easy for that grade level, or they were not formulated well. The texts, however, were all accepted as appropriate for their corresponding levels, except those for fourth grade level. For this grade one text and its questions were found too easy. A new text was then, chosen

and questions were prepared on it. The modified version of the two inventories were later shown to teachers to asses their appropriateness.

After making the necessary modifications and adjustments based on the suggestions and criticisms put forward by teachers, the second stage of the pilot study was realized. At this stage, the inventories were administered to students attending the four schools mentioned earlier. The purpose of this administration was to test the validiy of the comprehension questions for their corresponding grade levels, three through seven.

An idea about the reading profeciency of students in a class situation would be obtained from the Informal Group Reading Inventory. Therefore, seventh grade students were asked to participate in this section. Two classes, chosen, by the schools counselors of Şişli Terakki and Davutpaşa Lisesi, were administered the group inventory during a regular class period, by the school counselors. Altogether 137 students, 58 from 7-B and 7-D sections in Şişli Terakki Lisesi, and 79 from 7-A and 7-F sections in Davutpaşa Lisesi, participated in the group testing.

During the administration, a brief summary of the content of the text was given to the students first. They were, then, asked to read the text on their own. When everybody finished reading, comprehension questions were given to the students, and they were asked to answer them in written form. These answers were scored afterwords by the investigator. The obtained results are presented in Table 7 in the form of average scores for different groups and schools separately.

TABLE 7- Reading Scores on the Informal Group Reading Inventory of Seventh Grade Students from Two Schools

	Şişli Terakki Lisesi		Davutpaşa Lisesi	
Classes	7D	7B	7F	7A
Number of Students	10	28	36	43
Class Average of the Informal Group Reading Inventory	17.55	16.82	15.24	16.40
School Average	17.19		15.82	t=3.75*

*p=<.005

This table indicates that the average score received by Şişli Terakki Lisesi (17.19) was significantly higher ($p<.005$) than the average score of the Davutpaşa Lisesi (15.82), with a t value of 3.75 and 135 degrees of freedom.

The overall average reading score obtained from four groups was 16.50. Thirty-three per cent of Şişli Terakki Lisesi and 53 per cent of Davutpaşa Lisesi students fell below this average score.

The results were also scrutinized in terms of incorrect responses. The percentage of students who could not respond correctly to a particular question was calculated. A question was qualified as invalid if 20 per cent or more of the participants from both schools responded incorrectly to that specific question. This criterion is set by the investigator, based on the percentage used by Dale and Chall in determining their own common word list. The difficulty level of each question was not taken into account in this evaluation. The obtained results are presented in Table 8.

From Table 8, it appears that while five questions, i.e. 1, 7, 13, 16 and 20, were responded incorrectly by more than 20 per cent of the first group, nine questions, i.e. 1, 2, 3, 7, 9, 13, 16, 19 and 20, were responded so by the second group. When the two groups were combined and averaged, six questions (1, 3, 7, 13, 16 and 20) were qualified as invalid.

An analysis was carried out on these six items with group of 48 students whose performance placed them within the category of independent reading level* (see Table 9). This was taken as a criterion group on which to check the invalid

*Scores between 18-20 corresponded to the independent level of reading.

TABLE 8- Percentage of Incorrect Responses for Items of The Informal Group Reading Inventory

Questions	Percentage of students with incorrect responses obtained from Şişli Terakki Lisesi	Percentage of students with incorrect responses obtained from Davutpaşa Lisesi	Percentage of incorrect responses obtained from two groups combined
1	33	34	34*
2	5	24	16
3	7	29	20*
4	3	4	4
5	9	9	9
6	10	9	9
7	29	54	44*
8	5	16	12
9	3	20	13
10	3	5	4
11	2	5	3
12	3	3	3
13	40	39	39*
14	5	11	9
15	5	18	12
16	59	48	53*
17	10	8	9
18	3	10	7
19	12	23	18
20	21	24	23*

*Invalid questions.

items, because by definition these students were expected to read a selection from their grade at the independent level. It was also expected that when an item was responded to correctly by more than 80 per cent of the independent level, the question would be regarded valid.

TABLE 9- Percent of Independent Readers Giving Incorrect Responses for Six Questions of the Group Reading Inventory (N=48)

Questions	The Percentage of Students with Incorrect Responses
1	27
3	2
7	19
13	10
16	19
20	0

The data presented in Table 9 show that only the first question of the group inventory was not responded to correctly by more than 80 per cent of readers. The type of answers given to this particular question were studied and modified as seen appropriate. But no further testing was carried out on the modification of the experimental group inventory form; and it was assumed valid. The remaining five items were interpreted to be valid, as they met the criterion proposed.

The Informal Individual Reading Inventory was handled differently. Its validity was tested both at the elementary and the secondary school levels. For the elementary level 30 students, from Şişli Terakki and Türkân Şoray İlkokulu each, were selected by class teachers. Ten students from different sections of the three grade levels, grade 3-5 in each school, formed these 30 students.

For the secondary levels, students from Şişli Terakki Lisesi and Davutpaşa Lisesi were chosen. Ten students from different sections of sixth and seventh grades, except for the seventh grade of Şişli Terakki Lisesi, were included. The total was 30 students, 20 from Davutpaşa Lisesi, and 10 from Şişli Terakki Lisesi.

The students were administered the Informal Individual Reading Inventory by the investigator, during a regular class hour, in a separate, quiet room. This administration started with the first reading text at the grade level of the particular students (the order of reading texts is presented in Appendix G). Following a brief explanation about the content of the text, the student was asked to read the text orally. Then the investigator asked the comprehension questions on the particular selection. The student answered orally, and the investigator wrote them down. If the answers were incorrect, no help was given. A second selection at the same grade level was given to be read, and the student was asked to read it silently, this time. Comprehension questions were asked afterwards, as it was in the case at oral reading.

Results were analyzed in terms of comprehension scores received from particular selections. The criterion for evaluation was based on the number of students who were able to read a selection at his/her independent level, that is at 90 percent level of comprehension or above. Accordingly, a text would be assumed valid, if at least half of the students, from either one of these pilot schools, could comprehend a particular selection at the independent level. This criterion is set intuitively by the investigator. Each selection of the individual inventory was assessed according to the above criterion. All of the selections were found valid for their corresponding grade levels. For each text, there existed a case where at least five out of 10 of the students comprehended

it at the independent level. The obtained results are given in Tables 10 and 11 for elementary and secondary school levels, respectively.

TABLE 10- Number of Students in Two Elementary Schools Who Reached Independent Level of Reading on the Informal Individual Reading Inventory

Grades	Order of Presentation of the Selections	The Number of Students Comprehending at the Independent Level of Reading	
		Şişli Terakki İlkokulu (N=30)	Türkân Şoray İlkokulu (N=30)
3	1	9	5
	2	9	0
4	1	9	3
	2	6	2
5	1	6	2
	2	6	1

TABLE 11- Number of Students at the Two Secondary Schools Who Reached Independent Level of Reading on the Informal Individual Reading Inventory

Grades	Order of Presentation of the Selections	The Number of Students Comprehending at the Independent Level of Reading	
		Şişli Terakki İlkokulu (N=10)	Türkân Şoray İlkokulu (N=20)
6	1	8	7
	2	7	5
7*	1	-	6
	2	-	6

*The Informal Individual Reading Inventory could not be administered to the seventh grades of Şişli Terakki Lisesi.

5.4.4. The Test Administration

The administration of informal reading inventories constituted the major activity in the procedure.

Testing was carried out with the main samples of the study in two steps; a) Administration of the Informal Group Reading Inventory, and b) Administeration of the Informal Individual Reading Inventory.

All the seventh grade students (N=248) in five different sections of the Büyükçekmece Lisesi were included in the Informal Group Reading Inventory administration. The investigator applied this test to each seventh grade class during a regular school hour, since guidance hours were used to supplement other courses. The class hours utilized for testing were determined by the assistance of the school principal.

At the beginning of testing, the participants were informed about the study. They were explained that the aim was to determine the reading level of students, and the relationship between reading and school achievement. Following this, an appropriate text or reading selection (See Appendix F) was presented together with a brief explanation on what the text was about (see page 33). Participants were asked to read the text silently. After everybody finished reading, comprehension questions were handed in to be answered in written form by the students, themselves.

The answers given for the group reading inventory were checked and scored afterwards by the investigator. These were used as reading comprehension scores in computing the correlations between reading and academic achievement of the students.

The second phase of test administration included the Informal Individual Reading Inventory. It was carried out only with 20 students living in the Büyükçekmece orphanage and also attending the Büyükçekmece Lisesi.

The individual inventory is suggested for those students whose scores fall below 50 out of 100 in the group inventory (Strang, 1964, p.130). The investigator of this study, however, decided to give the individual inventory to all the orphanage seventh graders, irrespective of their group inventory scores, since it was a small group of 20 students. It was thought that more information on reading behavior of seventh graders would be gathered this way. The obtained individual reading scores would also facilitate a comparison of the reading performance of these students on two types of reading inventories. The degree of concordance between the group and the individual reading inventories could also be determined with these data.

The individual reading inventory was administered according to Miller's suggestion of five different steps to be followed (see page 15). In the present study, only the first and the fourth steps, i.e. establishment of a good rapport and giving graded reading texts, considered relevant, were applied. The other steps, dictating and reading a language experience story, giving different inventories for phonetic and instructional analysis, and the word recognition test were omitted due to time limitation.

Administration of the Informal Individual Reading Inventory started with the first selection of the third grade for all orphanage students, except for those who received a group test score of 16.50, the pilot group average, at the seventh grade level. For those students the individual testing began at the seventh grade level, since they were expected to

read a selection corresponding to their grade, at the independent level.

The individual testing was carried out at the Büyükçekmece Orphanage in the morning hours when these students were free. One problem came up in finding an empty room for testing in the orphanage. Most of the rooms there were utilized for study purposes. Therefore, the testing setting varied (i.e. library, director's office, or an empty study - room) from day to day.

The administration started by giving a brief explanation on the technique to be used. The student was told that the texts would be increasing in difficulty and that the student might find the material too hard to handle as testing progressed. Then the content of the first selected text was explained and it was presented to be read orally. This was tape-recorded for purposes of obtaining data on reading habits of students. Errors in oral reading were analyzed afterwards by the investigator. Following reading, comprehension questions were asked orally by the investigator, and the answers were written down. The percentage of correct answers was calculated immediately for each selection. This was followed by the second selection of the same grade level, but the student was asked to read it silently this time. Comprehension questions were asked in a similar way as it was in oral reading, and the percentage of correct responses were calculated immediately. After both selections of the particular grade level were given, the first selection of the following grade level was presented. This continued until the student read at least one selection of the particular grade at the frustration level; or until all reading texts were completed at independent or instructional level.

The procedure by which the students reading performance

was determined, was based on rules offered by Dechant (1971, p.96). These rules were that:

a) A student's reading performance is evaluated independent for a particular grade level, if the scores obtained from both selections of that level are rated as independent.

b) If one of the text scores is rated as instructional, then the student's reading performance is rated as instructional regardless of the level of the other text.

c) If one of the text scores rated the student's reading performance as frustration, his/her level was accepted as that regardless of the level of the other text.

d) When a student's reading from a higher grade is rated better than the previous grade, the level reached at the higher grade is taken as his actual reading level.

Results obtained this way constituted the reading comprehension scores of individual reading inventory used in the following analysis.

All data are presented in Appendix I.

5.4.5. Analysis of Data

Techniques used in the data analysis were the Pearson Product Moment Correlation, Rank Order Correlation, chi-square and t-test for dependent samples. The data were presented: a) Descriptively in tables of means and standard deviations of scores and grades, b) Correlation coefficients and chi - square values as index of achievement as well as relationship between Informal Group Reading Inventory and Informal Individ-

ual. Reading Inventory, c) Finally the reading habits of seventh graders were described in terms of item difficulties knowledge of the grammatical pattern in Turkish, level of comprehension and types of errors.

Results are presented in the following section.

VI. RESULTS

The results will be presented under three meadings as: (1) Description of data in terms of means and standard deviations, frequency distributions and percentage of students classified according to scores obtained from reading inventories and grades, (2) Relationship between reading and achievement, and (3) Description of the reading behavior of the seventh grade orphanage students.

6.1. Means and Standard Deviations of Reading Scores and Grades

The reading scores obtained by the total group from the Informal Group Reading Inventory, their Grade point average (GPA), and Turkish and Math average grades were evaluated. The means and standard deviations of reading scores and grades are presented in Table 12.

TABLE 12- Means and Standard Deviations of the Informal Group Reading Inventory Scores, the GPA and the Turkish and Math Grades of the Total Group (N=248)

Measures	Mean	Standard Deviation
Informal Group Reading Inventory	15.97	2.64
GPA	5.97	1.35
Turkish	5.66	1.45
Math	5.50	1.85

Similarly the same variables are taken in addition to the Individual Reading Inventory scores, and means and standard deviations are calculated for the orphanage group of 20 students. These are presented in Table 13.

TABLE 13- Means and Standard Deviations of the Informal Group Reading Inventory and Informal Individual Reading Inventory Scores, the GPA, and the Turkish and Math Grades of the Small Group (N=20)

Measures	Mean	Standard Deviation
Informal Group Reading Inventory	14.38	2.04
Informal Individual Reading Inventory	17.82	2.66
GPA	4.87	0.88
Turkish	4.83	1.41
Math	4.18	1.37

An inspection of Tables 12 and 13 shows that the mean scores obtained from the small group were lower than the mean scores of the total group on all measures. The mean scores* of the two group were subjected to t-test for uncorrelated samples for finding out whether these are significantly different from each other or not. For this analysis, the independance of groups were achieved by taking the orphanage group out of the total group at 248 students. This was called the large group with (248-20) 228 students; and the other was called the small group with 20 orphanage students. Table 14 gives the means and the standard deviations of the large group.

A comparison of the mean scores of two groups is displayed in Table 15. The results revealed that the mean scores of the large group were significantly higher than the mean scores of the orphanage group at the .0005 level.

*Since the group reading inventory scores were out of 20 points and the individual reading inventory scores were out of 100, for the sake of the comparison, each individual reading inventory score was divided by five to obtain the corresponding out of 20 points.

TABLE 14- Means and Standard Deviations of the Informal Group Reading Inventory Scores, the GPA and the Turkish and Math Grades of the Large Group (N=228)

Measures	Mean	Standard Deviation
IGRI	16.15	2.61
GPA	6.07	1.34
Turkish	5.76	1.43
Math	5.62	1.84

TABLE 15- Comparison of the Mean Scores Obtained from the Two Groups

Measures	Large Group Means (N=228)	Small (Orphanage) Group Means (N = 20)	Calculated t-Value (d.f.=246)	Level of Significance
IGRI	16.11	14.38	4.76	.005
GPA	6.07	4.87	4.53	.005
Turkish	5.76	4.83	3.33	.005
Math	5.62	4.18	4.62	.005

6.1.1. Frequency Distributions and Percentage of Students Classified on the Basis of Reading and Achievement Scores

For another descriptive display of data, students were classified according to academic achievement and reading comprehension into categories, such as achiever and non - achiever in one case, and independent, instructional and frustration level readers in another. Students thus categorized are presented in Tables 16 through 21.

Table 16 shows a classification of students by grade point average and group reading scores. It can be seen from this table that 92 per cent of the total group of students fell in the achiever group. Sixty-three per cent of these

achievers were, however, assessed to be instructional level readers. Of the eight per cent of students, who fell in the non-achiever group, none were independent readers. The majority read at the instructional level.

TABLE 16- Frequency Distribution and Percentage of Students Categorized by Grades (GPA) and Reading Levels Based on Informal Group Reading Inventory Scores (N=248)

Reading Comprehension Levels	Achiever		Non-Achiever	
	Frequency	%	Frequency	%
Independent	79	32	-	-
Instructional	145	58	14	6
Frustration	6	2	4	2
TOTAL	230	92	18	8

Table 17 shows a similar classification of students by Turkish grades and group reading scores.

TABLE 17- Frequency Distribution and Percentage of Students Categorized by Turkish Grades and Reading Levels Based on Informal Group Reading Inventory Scores (N=248)

Reading Comprehension Levels	Achiever		Non-Achiever	
	Frequency	%	Frequency	%
Independent	78	32	1	-
Instructional	135	54	24	10
Frustration	4	2	6	2
TOTAL	217	88	31	12

This table indicates that 88 per cent of the total group were achievers in Turkish course. Again, the majority of the achiever group (135/217 = 62 per cent) and the non-

achiever group (24/31 = 77 per cent) were assessed as instructional level readers.

In Table 18, students were classified by their math grades and group reading scores. Of the math achievers (107/184) 58 per cent were classified to be at the instructional level, while (52/74) 83 per cent of the non-achievers fell in this category.

Based on findings shown in Tables 16, 17 and 18, it can be said that whatever course grade is taken for criteria at achievement, the majority of both the achievers, and the non-achievers are reading at the instructional level.

TABLE 18- Frequency Distribution and Percentage of Students Categorized by Math Grades and Reading Levels Based on Informal Group Reading Inventory Scores (N=248)

Reading Comprehension Levels	Achiever		Non-Achiever	
	Frequency	%	Frequency	%
Independent	73	30	6	2
Instructional	107	43	52	21
Frustration	4	2	6	2
TOTAL	184	75	64	25

The small (orphanage) group was also classified. But this time both the group and the individual reading inventory scores were considered. The results are presented in Tables 19, 20 and 21.

TABLE 19- Frequency Distribution of the Orphanage Students Categorized by GPA and Reading Levels Based on Informal Group and Individual Reading Inventory Scores (N=20)

Reading Comprehension Levels	IGRI		IIRI	
	Frequency of		Frequency of	
	Achievers	Non-achievers	Achievers	Non-achievers
Independent	-	-	8	4
Instructional	14	5	6	1
Frustration	-	1	-	1

Table 19 presents a classification based on grade point average and group and individual reading scores. It can be seen from this table that 14 orphanage students had a grade point average of 4,5 or higher and were classified as achievers. All of the achievers, were classified as instructional level readers by the group reading inventory scores. Based on the individual reading inventory scores, however, 12 students were assessed to function at the independent level of reading and seven at the instructional level. Of the 12 independent readers eight were achievers, and four non - achievers. Six achievers scored at the instructional level and none at the frustration level.

Classifications using Turkish grades and the two reading scores are presented in Table 20. Reading these data we can say that while most of the achievers in the Turkish course came from the instructional level readers, based on group reading scores, achievers scored mostly at the independent reading level according to their individual reading scores.

TABLE 20- Frequency Distribution of Orphanage Students Categorized by Turkish Grades and Reading Levels Based on Informal Group and Individual Reading Inventory Scores (N=20)

Reading Comprehension Levels	IGRI		IIRI	
	Frequency of		Frequency of	
	Achievers	Non-achievers	Achievers	Non-achievers
Independent	-	-	9	3
Instructional	13	6	4	3
Frustration	-	1	-	1

Table 21 presents classifications based on math grades and group and individual reading scores. Here the number of achievers and non-achievers were equal. Neither the group nor the individual reading scores and levels of reading seemed to help in a systematic classification of students on achievement. It is therefore difficult to see the relationship between math achievement and reading performance of these students.

TABLE 21- Frequency Distribution of Orphanage Students Categorized by Math Grades and Reading Levels Based on Informal Group and Individual Reading Inventory Scores (N=20)

Reading Comprehension Levels	IGRI		IIRI	
	Frequency of		Frequency of	
	Achievers	Non-achievers	Achievers	Non-achievers
Independent	-	-	5	7
Instructional	9	10	4	3
Frustration	1	-	1	-

6.2. The Relationship Between Academic Achievement and Reading Comprehension

The relationship between achievement and reading was assessed by product moment correlation, rank order correlation and non-parametric techniques such as chi-square, and etc.

The Pearson Product Moment Correlations on academic achievement and reading comprehension were calculated and found to be between .46 and .49, significant at the .005 level. As shown in Table 22, the scores received from the group reading inventory are significantly related to grade point average, the Turkish and the Math grades. Based on this finding, we can say that about 20 per cent of the variance in these students achievement can be explained by their reading performance.

TABLE 22- Correlations Between Informal Group Reading Inventory Scores and School Grades of Seventh Grade Students (N=248)

School Achievement	IGRI	Level of Significance
GPA	.48	.005
Turkish	.49	.005
Math	.46	.005

An analysis of the relationship, using the chi-square technique, where students were classified into achiever/non-achiever categories in one case; and independent, instructional and frustration levels in another, also revealed a significant relationship ($p<.001$) between academic achievement and reading comprehension levels for the total group. This finding indicates that the reading comprehension levels of achievers and non-achievers, according to GPA, Turkish and

Math grades, are significantly different from each other. Table 23 presents the χ^2 values and the level of significance for all three variables under consideration.

TABLE 23- The Chi-Square Analysis of Reading Comprehension Levels (Based on IGRI Scores) and School Achievement for the Total Group (N=248)

Variables	Calculated χ^2	d.f.	Level of Significance
GPA vs. Reading Comprehension Levels	17.37	2	.001
Turkish vs. Reading Comprehension Levels	21.39	2	.001
Math vs. Reading Comprehension Levels	37.97	2	.001

A similar relationship was also sought for in the small (orphanage) group by using both the individual reading inventory and the group reading inventory scores and grades (Table 24). Here the Rank Order Correlation technique was utilized. Correlations between group reading scores and grades were .51, .50 and .30, the latter not reaching significance. Correlations between achievement and the Informal Individual Reading Inventory scores were low and non - significant for grade point average and math average but significant for Turkish average.

TABLE 24- Rank Order Correlation Between School Achievement and Informal Group Reading Inventory As Well As Informal Individual Reading Inventory Scores (N=20)

School Achievement	IGRI r	Level of Significance	IIRI r	Level of Significance
GPA	.51	.025	.11	n.s.
Turkish	.50	.025	.43	.05
Math	.30	n.s.	.24	n.s.

The chi-square technique could not be utilized for the small group, because the number of participants included in this group is too small to warrant the use of this technique.

The overall evaluation of relationships revealed that reading comprehension and academic achievement are significantly correlated to each other in general. This supports the hypothesis of a meaningful relationship between reading and achievement.

The investigator was also interested in finding out the relationship between the two kinds of informal reading inventories used in this study. Therefore, scores obtained from the group and the individual reading inventories were used as data for an analysis of association. A Rank Order Correlation, the Wilcoxen Test and the t-test for correlated samples were used for this analysis. Results revealed significant a relationship between the two types of measures. A detailed analysis and interpretations of findings are given in Appendix J.

6.3. Reading Habits of the Seventh Grade Students

Reading habits of the seventh graders were analyzed using criteria such as the difficulty level of items, knowledge of the grammatical pattern of Turkish language, level of comprehension and the types of errors in oral reading.

The data were derived from the written answers to grammer and comprehension questions asked in the group inventory, to comprehension questions of the individual inventory, and the oral responses recorded during the administration of the individual inventory.

6.3.1. Item Difficulty

The percentage of students giving incorrect responses, to each question was taken as criterion for evaluation. Thus a question was evaluated difficult if at least 20 per cent of the participants responded incorrectly.

The general evaluation of the responses to questions of the group reading inventory showed that seven out of 20 questions were perceived difficult by these seventh graders. At least 20 per cent of the participants could not give correct responses to seven questions, i.e. 1, 7, 8, 9, 13, 16, 20, among which the first four were multiple-choice and the last three short-essay questions (see Table 25).

The evaluation of responses, given by the orphanage group, to questions of the individual reading inventory revealed that 20 out of 100 questions were perceived harder than the others.

6.3.2. Knowledge of the Grammatical Pattern in Turkish Language

The students knowledge of the grammatical pattern in Turkish Language was evaluated through the responses given to the multiple-choice questions of the Informal Group Reading Inventory.

Six questions were on knowledge of words presented in the text. Thirty-seven and 33 per cent of the participants responded incorrectly to the first and the ninth multiple - cohice questions, respectively, indicating that the words inquired by these questions were not well-known by these students.

Two questions (5 and 6) were on dividing words into syllables. Results indicated that most of the participants know the syllabication of Turkish words.

Two questions (7 and 8) were prepared to see how well the students could distinguish between the parts of a sentence, i.e. noun, verb or adjective. Findings revealed that students are experiencing difficulty in differentiating one part of a sentence from another.

6.3.3. Level of Comprehension

For comprehension, short-essay questions of the group and the individual reading inventories were analyzed.

In the short-essay section of the Informal Group Reading Inventory, the three questions perceived as relatively difficult were directed at measuring the students' inferential level of comprehension.

The small group analysis, however, resulted in a different outcome than the large group analysis. Hundred comprehension questions of the Informal Individual Reading Inventory were composed of 44 literal, 29 inferential and 27 evaluative items.

The results showed that seven out of 44 (16 per cent) literal questions, six out at 29 (21 per cent) inferential questions, and seven out of 27 evaluative questions were more difficult than the others. Table 26 presents the percentage of difficult questions at different comprehension levels.

TABLE 25- Percent of Incorrect Responses to Comprehension Questions on the Informal Group Reading Inventory of the Total Group (N=248) and those of the Independent Readers (N=79)

Questions	Total Group (N=248)	Independent Readers (N=79)
1	37	17
2	10	5
3	15	5
4	4	1
5	8	2
6	11	1
7	43	21
8	20	5
9	33	10
10	10	2
*11 (L)	5	0
*12 (L)	6	1
*13 (I)	39	12
*14 (L)	13	1
*15 (L)	15	0
*16 (I)	64	35
*17 (I)	11	2
*18 (E)	9	0
*19 (E)	13	2
*20 (I)	34	11

*Level of comprehension is presented in paranthesis.

L = Literal

I = Inferential, and

E = Evaluative

TABLE 26- The Relatively More Difficult Questions of the Informal Individual Reading Inventory

Comprehension Levels	The Percentage of Difficult Questions
Literal	16
Inferential	21
Evaluative	26

The highest percentage of difficult items was observed in the evaluative questions, followed by inferential questions. This is consistent with general expectation.

6.3.4. Types of Errors in Oral Reading

The error analysis of the taped oral reading characteristics included the percentage and the types of errors according to criteria and rules set by Dechant (1971, p.94) and as shown in Appendix H.

Independent level of reading was determined by one per cent or less error, instructional level by 2-5 per cent error, and frustration level by 6 per cent of more error in oral reading.

Table 27 presents tho percentage of oral reading errors made by each of 20 participants at all reading levels included in the informal reading inventory.

The data show that none of the orphanage students could read the texts orally at the independent level at any grade. The smallest percentage of error was two. Only four were able to reach the instructional level at grade seven, one at grade six, six at grade five, one at grade four and one at grade three. Six participants were in the frustrated category at all grade levels.

TABLE 27- Percentage of Errors in the Oral Reading Part of the Informal Individual Reading Inventory at Grade Levels 3 Through 7

Subjects	Selections of the IIRI	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade
	1	9	10	13	15	16
	2	8	5	6	15	12
	3	8	5	5	13	14
	4	5	6	8	11	12
	5	13	12	15	17	17
	6	3	6	3	8	9
	7**	9	7	9	-	-
	8	5	6	8	13	23
	9**	-	-	-	-	8
	10**	-	-	-	-	12,5
	11	5	14	4	10	14
	12*	-	-	-	-	5
	13	6	4	5	12	8
	14*	-	-	-	-	4
	15	3	4	4	4	6
	16*	-	-	-	-	4
	17	6	16	10	10	14
	18	5	7	5	16	13
	19	3	3	3	5	4
	20**	5	5	2	-	-

*Participants whose group inventory scores were above the mean of the seventh grade pilot sample were not administered the individual reading inventory below seventh grade.

**Sixth and seventh grade level reading texts were not given to those participants, because they reached the frustration level at the fifth grade.

When the oral reading level of each participant was compared to his Individual Reading Inventory score; it was observed that among the 12 independent level readers, based on individual reading inventory performance, only four could read the second selection of seventh grade at an instructional level. The others were defined as instructional level readers either at sixth, fifth or fourth grades. This observation may lead one to think that there is not much relationship between oral reading levels and reading comprehension levels, as determined by the Informal Individual Reading Inventory used in this study.

The sixth question of the first selection, at seventh grade level, provides an example for the above impression. Thirteen out of 18* participants, while reading the particular text orally, could not pronounce the word "kulaklıklarını" (Appendix G, "Yunuslar da Şarkı Söyler", p. , fifth row, ninth word) correctly, and read it as "kulaklarını" Responses to the comprehension question, i.e. the sixth question, incorporating this word showed that eight of these 13 participants gave correct answers and five failed. So, majority of students who pronounced the word incorrectly, was able to perceive the meaning and comprehend it correctly. This supports the discussions put foreward by Goodman on deviations in oral reading (See p.7), and can be interpreted as a "careless" mistake, which however does not necessarily interfere with students' comprehensions of the sentence read.

An analysis of the types of errors in oral reading of the orphanage seventh graders are presented in Table 28.

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*Two of the participants frustrated at fifth grade level. They were not presented the texts of sixth and seventh grade levels.

TABLE 28- Percentage of the Types of Errors in Oral Reading (N=20)

Types of Errors	Occurance (%)
Repetition	10
Substitution	5
Omission	5
Hesitation	20
Syllabication	35
Mispronounciation	20
Lack of attention to punctuation marks	5

Syllabication (reading a word by sllables) was found to be the most common error in oral reading. Hesitations and mispronounciations were the next most common types at errors observed.

6.4. Summary of the Results

The mean scores of the Informal Group Reading Inventory, the GPA, and the Turkish and the Math grades of the large group (N=228) were significantly higher ($P<.005$) than the mean scores of the orphanage group (N=20) on all measures.

The majority of both achievers and the non-achievers of the total group (N=248) were reading at the instructional level on the basis of group reading scores. More than half of the orphanage students included in the small group, however, were classified as independent level readers by their individual inventory scores.

Academic achievement and reading comprehension of the total group were significantly correlated ($P<.005$), and therefore, probably not independent of each other. However,

in the small (orphanage) group analysis, significant relationships were found between the group reading scores and the GPA and Turkish grades (P .025); and between individual reading scores and the Turkish grades.

Participants experienced problem in responding to some of the grammatical questions of the group reading inventory. Two of the multiple-choice items on word knowledge and two questions on sentence structure of Turkish were perceived relatively difficult. Inferential questions of the group reading inventory, and evaluative questions of the individual reading inventory were also regarded difficult by the participants.

Levels of oral reading and comprehension, as they were determined in this study, were found to be unrelated to each other.

Syllabication, hesitation and mispronounciation were the most common errors in oral reading.

VII. DISCUSSION

The main purpose of this study was to determine the relationship between academic performance and reading comprehension of seventh graders. To achieve this purpose, it was necessary to develop instruments by which to assess the reading comprehension in the Turkish language. In addition, data on reading habits of the seventh grade students were also aimed to be collected for future work on the subject.

In determining the relationship between academic achievement and reading comprehension, school grades (grade point average, grades from Turkish and Math. courses) and reading scores were needed. Grades were obtained from the school files, and reading scores from two reading tests developed by the investigator for this purpose. A major part of this study, therefore, constituted the development of these instruments, designed after a technique called the informal reading inventories.

Steps followed in establishing the experimental forms of reading inventories were: (1) The calculation of the readability ranges of Grades 3-7, utilizing the formula developed by Dale and Chall; (2) Development of an Informal Group Reading Inventory and Informal Individual Reading Inventory; and (3) Conducting a pilot study to test the validity of these inventories.

Two-hundred-forty-eight seventh grade students of the Büyükçekmece Lisesi, including 20 students living in the Büyükçekmece Orphanage, also attending the same school, participated in the study. Both groups were administered the Informal Group Reading Inventory, but only the orphanage group took the Informal Individual Reading Inventory. The tests were administered in two different settings; in the classrooms of the Büyükçekmece Lisesi for group testing and in various study rooms, etc., for individual testing.

The findings of the data revealed a significant relationship between academic achievement and reading comprehension of the seventh grade students, attending the Büyükçekmece Lisesi. The grade point average, the Turkish and the Math. grades were significantly correlated (.48, .49 and .46) with the group reading inventory scores at the .005 level. These correlations indicated that 21-24 per cent of variance in academic achievement colud be explained by reading scores. Thorndike (1973) and Bloom (1976) had come up with correlation coefficients of .68 and .70, respectively, between achievement in literature and reading comprehension; .60 and .54 between Math. achievement and reading comprehension. One possible explanation for differences between the correlation coefficients obtained in this study and those obtained by Thorndike and Bloom may be that the reading inventories, developed and utilized in the present study, are not as effective as the ones used by the other investigators in assessing the reading comprehension.

A significant relationship between academic performance and reading comprehension was also found in the chi-square analysis. The results indicated that achievement in school in general, as well as achievement in specific content areas, were related to reading comprehension. Thus the main hypothesis of this study was supported by the data obtained from the total group of 248 students.

The same hypothesis was also tested using the orphanage group, i.e., the small group of 20 students. They were administered both the group and the individual reading inventories. Significant relations were found between the grade point average, the Turkish grades and the reading comprehension scores obtained from the group inventory. Correlations between the individual reading scores and the Math. grades as well as the grade point average were not significant. This lack of significance can be explained by the homogeniety of the orphanage group, and, therefore, small variance.

The most overall significant finding in both groups was on the relationship between Turkish grades and reading comprehension scores.

An analyses of the two informal reading inventories was also carried out and findings revealed that the scores obtained from them were significantly correlated to each other. The individual reading inventory means, however, were significantly higher than those of the group reading inventory means.

Strang (1964, p.191) argues that an informal group reading inventory is an instrument through which one can get a general idea about reading; and an informal individual reading inventory is the one through which one gets specific information about a student's reading performance and skills. When the results of the present study were evaluated, it was noted that of the 19 participants categorized as instructional level readers by the group inventory, a good number moved into the independent reader category by the scores obtained from the individual inventory. This may mean that for more reliable classifications of reading levels, individual inventories should be used, time and circumstances permitting.

The characteristics of the individual reading inventory may bring some explanation to the discrepancy between group and individual reading scores. The individual reading inventory evaulates the student on the basis of two to ten different reading texts, in contrast to one text used in the group reading inventory. This would imply two things: (1) one gets more behavior sampling from the individual inventory which increases the reliability of data; and (2) during administration students, failing in the first selection, might have learned something about the way the questions were presented, and the expected responses. This might have led to better performance in the successive trials.

Reading habits of seventh graders were examined by analyzing their response errors. In one analysis of responses to questions of the group inventory it was found that the students experienced problems in defining words, and in differentiating the parts of a sentence, i.e., a noun, a verb or an adjective. Among the short-essay questions, the inferential level questions seemed more difficult than the literal and the evaluative questions.

In the analysis of response errors to the questions of the individual inventory, the highest percentage of incorrect responses fell in the evaluative category, indicating that the evaluative questions were most difficult for these students. As expected, the least number of incorrect responses was given to literal questions, indicating that they were not difficult.

In the analysis of oral reading performance of the orphanage students, the most common errors were in syllabication, mispronounciation and hesitation. This indicates that orphanage students read words either syllable by syllable, mispronounced them, or hesitated before reading the following

word. These findings remind us of the conceptualization presented by Goodman (in Gunderson, 1970, p.110) where an unskilled reader is defined as one who relies mostly on graphic cues. Since observations showed that the orphanage students read words by syllables, mispronounced them, or hesitated before reading them, they can be categorized as unskilled readers.

The characteristics of the environment in which a reader has grown-up is noted to be of considerable importance in the reading comprehension of students (Thorndike, 1973, p.148). Literature implies that deprived environments could have debilitating influences on students' reading and achievement. Based on this, the orphanage students, whose home background is relatively deprived were expected to experience reading difficulties more than the students living with their parents.

The findings in fact were supportive of this expectation. The mean scores of the orphanage students in the area of group reading, the grade point average, the Turkish and the Math. grades were significantly lower than those of students living with their parents. These indicate that the achievement and the reading comprehension levels of the orphanage students were inferior to those of their classmates. Similar findings were also reported by Thorndike (1973, p.148).

From the results obtained in this study it can be concluded that reading comprehension problems are quite widespread among Turkish seventh grade students. The findings have shown that the majority of students are instructional level readers. This means that students are not effective enough in their reading comprehension, and therefore could not function in school as well as they are expected. If their comprehension level is increased from instructional to

independent, a good deal of the problem could perhaps be remedied.

Since there is a significant relationship between academic achievement and reading comprehension the importance of reading development for better achievement seems clear. If school administrators and teachers make special effort in running reading development and/or remediation programs some of the school problems that are related to reading could be prevented. Psychological as well as academic implication of reading are well known and covered exhaustively in the English language. There is little doubt that similar implication are valid for Turkish as well.

VIII. LIMITATIONS OF THE STUDY AND RECOMMENDATIONS

Limitations are generally related to the procedure of this study. These limitations include; (1) the selection of participants in the pilot-study, (2) the validity of Dale and Chall's formula used in determining the readability of texts in Turkish, (3) the number of participants in the Informal Individual Reading Inventory, and (4) the testing conditions. Also the investigator needed more literature on the relationship between reading and achievement. It was apparent that a great deal of work was done on the topic, but the local library limitations put a set on the number of studies that could be included in the review of literature section of this paper.

No specific criterion was used for the selection of the participants administered in the pilot study. They were selected subjectively either by the school counselors or by the class-teachers. Although a minor possibility, it could have been the case where most of the selected participants were non-achievers. This situation would then falsely indicate that the selected text was valid, or invalid for the corresponding grade level. It is believed that in a similar pilot study, the achievement levels of the participants should be controlled by randomization.

The method used for the establishment of the informal reading inventories, basically, relies on some table measures which are referred to as readability scores. Any particular text which a student reads have to have an associated readability score so as to make sure that the text is readable by that particular student, regarding his/her age and education level. Dale and Chall's formula was taken as basis for this computation. However, it should be noted that this particular formula was developed on texts written in English, not in Turkish. Since Turkish language is different from English language, a formula, which will be tested on texts written in Turkish and developed accordingly, is needed.

Moreover, the factors included in the Dale and Chall formula, i.e. sentence length and number of uncommon words, are most likely different in Turkish and need to be tested systematically, and perhaps it should be revised so that the validity of the readability formula can be established for the Turkish language as well. The nature of words (concrete vs. abstract) which are important in the comprehension of a text could also be taken into account in this formulation. A hypothetical text can be created out of a philosophy book, for example, which would have the same readability, in terms of sentence length and number of uncommon words, as a story from the Turkish book at seventh grade level. There is no doubt that a student at this level would find this text very difficult to understand,since it includes more abstract, conceptual words and ideas. This limitation should be overcome in future studies, by developing an appropriate readability formula.

Twenty participants, included in administering the individual inventory, brought another limitation. It must be noted at this point that the study would end up with healthier results for the small group if the number was greater and

the participants were more heterogeneous than was the case in this study.

The conditions in the group and individual testing are regarded as another limitation that effect the reliability of students performance. The probability of sharing ideas among the students might effect their real reading performance in a group test. As for the individual testing, it was believed that the different settings utilized, and the noise created by the orphanage students outside the testing room might have influenced the concentration of the participants negatively. Therefore, testing conditions must be controlled for more effective and reliable performance measures of the students in future studies.

APPENDIX A

TURKISH COMMON-WORD FREQUENCY LIST*

Words	Frequencies	Words	Frequencies	Words	Frequencies
(A)					
acı	28	armağan	31	bebek	31
acındırmak	41	arslan	27	benzemek	33
açık	36	artmak	32	beğenmek	45
açıklamak	33	asker	31	beklemek	90
açılmak	31	asmak	31	belirmek	30
açmak	145	aşağı	64	belirtmek	27
ad	97	at	68	beslemek	31
adam	143	ata	29	beyaz	47
adım	29	ateş	34	bırakmak	87
afet	27	atlamak	41	bildirmek	37
ağabey	30	atmak	108	bilgi	74
ağaç	270	av	67	bilmece	33
ağır	31	avcı	32	bilmek	183
ağlamak	76	ay	47	binmek	57
ahlak	70	ayak	122	bir	364
ahlaklı	41	ayakkabı	32	birer	42
aile	128	aydede	67	birkaç	45
akıl	42	ayı	37	birlik	56
akmak	28	ayırmak	35	bitirmek	25
akraba	26	ayna	47	bitişik	25
akşam	44	ayrılmak	33	bitmek	44
al	26	az	44	bol	61
alan	42			boş	60
allak	195	(B)		boy	27
almak	555			boyacı	51
altın	55	baba	384	böcek	31
ana	131	bağırmak	60	bu	332
anlam	95	bağlamak	76	bulmak	169
anlamak	111	bahar	94	bulunmak	152
anlatmak	385	bahçe	207	bulut	30
anmak	31	bakmak	382	bülbül	28
anne	290	balık	31	bütün	154
ara	62	balon	32	büyük	409
araba	103	baş	141	büyümek	32
araç	92	başarı	37		
aramak	53	başka	112	(C)	
arı	30	başlamak	273		
arkadaş	226	bayrak	114	cadde	42
arkadaşlık	27	bayram	234	can	96

* This list was derived from the list developed by Dr.Nail Şahin (1981). The words with frequency of 25 and above were taken and included in this common-word list.

Words	Frequencies
canlı	49
cep	25
cevap	55
cin	182
cumhuriyet	137
cüce	59
cümle	193
(Ç)	
çağırmak	38
çalışkan	32
çalışmak	404
çalmak	39
çanta	33
çarpmak	31
çekmek	73
çeşit	30
çeşitli	55
çevre	207
çıkarmak	63
çıkartmak	58
çıkmak	288
çiçek	174
çiftçi	35
çizgi	34
çizmek	30
çocuk	531
çok	647
çubuk	28
(D)	
dağ	66
dal	67
dalmak	29
davranış	48
dayı	59
dede	67
defter	113
değer	30
değerlendirmek	25
demek	738
deniz	86
dere	39
derin	32
ders	79
dev	51
devam etmek	28
diğer	30
dikkat	55
dikmek	56
dil	70
dilemek	44
din	35
dinlemek	73
dinlenmek	45
diş	26
doğmak	48
doğru	153
doktor	28
dolap	28
dolaşmak	37
doldurmak	26
dolmak	29
dolu	31
dönmek	126
dört	26
durmak	178
durum	97
duvar	28
dükkan	33
dünya	113
düşman	103
düşmek	53
düşünce	30
düşünmek	117
düzen	31
düzine	46
(E)	
ebe	27
edilmek	34
egemenlik	27
eğlenmek	82
ekim	29
eklemek	43
ekmek	26
el	255
elbise	66
elma	49
emek	49
erkek	30
eski	43
eşek	60
eşya	48
etmek	250
etraf	27
ev	558
(F)	
fare	84
fark	26
fazla	48
felaket	25
fener	52
(G)	
gazete	34
gece	109
geçirmek	76
geçmek	389
gelişmek	32
gelmek	808
gemi	82
genç	99
geniş	35
gerekmek	76
gerekli	39
geri	27
getirmek	229
gezi	63
gezmek	50
girmek	122
gitmek	550
giyinmek	27
giymek	33
giysi	35
gök	61
gökyüzü	26
göl	62
gölge	25
göndermek	40
görev	104
görmek	54
görünmek	39
göstermek	143
götürmek	87
göz	153
güç	37
gül	87
gülmek	90
gün	852
gündüz	36
güneş	66
güvercin	36
güzel	418

Words	Frequencies
(H)	
haber	74
haberleşmek	64
hafta	92
hak	106
hal	57
halk	59
hareket	71
harf	80
hasta	43
hastalık	56
hatırlamak	26
hava	188
hayat	96
haydut	53
hayvan	178
hazırlamak	88
hazırlanmak	25
hazırlık	34
hikaye	37
hoca	46
hoş	26
hoşlanmak	38
(I)	
ışık	50
(İ)	
iç	161
içmek	68
ihtiyaç	27
ihtiyar	64
iki	67
ikişer	27
ileri	35
ilerlemek	35
ilkbahar	30
ilköğretim	26
imparator	67
inanmak	32
incelemek	54
inmek	49
insan	384
insanlık	27
ip	66
isim	69
istemek	258
iş	370
işaret	102
işlem	69
işlemek	36
iyi	247
iyilik	57
(K)	
kaçmak	55
kadın	74
kafes	50
kâğıt	57
kaldırmak	36
kalem	96
kalkmak	73
kalmak	165
kan	38
kanat	31
kapı	109
kaplumbağa	28
kar	102
kara	34
karar vermek	30
kardeş	209
karın	34
karşı	105
karşılamak	38
katılmak	35
kaval	25
kaya	75
kaza	84
kazanmak	72
kavuşmak	29
keçi	52
kedi	59
kelebek	35
kelime	126
kent	60
kesmek	58
kılıç	34
kır	90
kırmızı	44
kısa	55
kısım	51
kış	225
kıyı	44
kız	51
kişi	37
kitap	176
kitaplık	33
kocaman	27
kol	65
koku	25
kolay	42
komşu	58
komutan	31
konmak	44
konu	165
konuşmak	63
korkmak	51
korku	31
korumak	105
korunmak	30
koşmak	173
koymak	116
kömür	39
köpek	111
kötü	45
kötülük	61
köy	85
köylü	75
kral	209
kraliçe	69
kulak	38
kullanmak	182
kullanılmak	25
kulübe	29
kural	69
kurmak	70
kurt	52
kurtarmak	49
kurtulmak	28
kurulmak	30
kuruş	47
kuş	140
kutlamak	69
kutsal	30
kuvvet	39
kuzu	69
küçücük	27
külkedisi	53
küme	53
(L)	
leylak	28
leylek	33
lira	159
(M)	
maden kömürü	25

Words	Frequencies
mağara	30
makine	49
mal	53
masa	62
masal	37
mavi	27
mektup	112
merak	28
meslek	90
mevsim	78
meydan	37
meydana gelmek	25
meyva	62
millet	61
misafir	36
muhtar	25
mutlu	44
müslüman	77
(N)	
nokta	49
(O)	
ocak	28
oda	94
odun	30
odunluk	74
oğul	52
ok	33
okul	373
okumak	272
olay	30
olmak	1614
onluk	40
ordu	78
orman	186
orta	43
ot	43
otobüs	43
oturmak	107
ova	27
oya	34
oynamak	262
oyun	183
oyuncak	57
(Ö)	
ödemek	42
ödev	35
öğrenci	101
öğrenmek	147
öğretmek	36
öğretmen	171
ölmek	75
ön	49
önce	39
önem	47
örnek	113
ötmek	31
özlemek	25
(P)	
pamuk	32
papatya	44
para	272
parça	64
parmak	31
pazar	60
pek	59
pembe	35
pencere	152
peri	74
peygamber	149
postacılık	38
prens	56
prenses	74
(R)	
radyo	44
rahat	56
rastlamak	25
reçel	28
renk	66
resim	182
resimli	29
rüzgâr	54
(S)	
saat	52
sabah	78
saç	40
sağlamak	111
sağlık	75
saldırmak	49
sanat	28
sandık	61
saray	98
sarı	85
satmak	52
savaş	166
savaşmak	35
sayfa	56
saygı	57
sayı	140
sayım	39
saymak	81
sebze	38
seçim	27
seçmek	68
sel	27
selam	26
serin	25
sert	40
ses	123
seslenmek	41
sevgi	35
sevgili	44
sevimli	28
sevinmek	72
sevinç	63
sevmek	342
seyretmek	52
sıcak	81
sıfat	30
sıfır	51
sınıf	175
sınır	49
sıra	140
sofra	31
soğuk	111
sokak	58
sonbahar	200
sonra	150
sonuç	34
sormak	136
soru	103
söylemek	326
söz	186
sözcük	60
sözlük	37
spor	41
su	256

Words	Frequencies
süre	33
sürmek	73
süs	27
süslemek	35
süt	39
(Ş)	
şarkı	54
şart	41
şaşırmak	41
şehir	198
şeker	40
şekil	119
şekillenmek	78
şiir	62
şöför	36
(T)	
tabak	27
tahta	43
takmak	63
takvim	25
tam	55
tamamlamak	43
tane	116
tanımak	59
taraf	43
tarım	41
tarih	43
tarla	56
taş	84
taşımak	39
taşıt	189
tatil	125
tatlı	42
tavşan	64
tavuk	47
taze	28
tek	42
telefon	77
televizyon	27
telgraf	47
temiz	94
temizlemek	35
tepe	47
terzi	66
teşekkür	29
teyze	29
tırnak	27
tilki	74
top	88
topaç	45
toplamak	106
toplanmak	35
toprak	154
torba	27
tören	51
trafik	92
tren	69
tutmak	203
tüm	27
türkü	25
(U)	
uç	27
uçak	64
uçmak	94
uçurtma	64
uğramak	45
uğraşmak	35
ulus	101
ulusal	49
unutmak	50
uyanmak	42
uymak	61
uygarlık	30
uyku	34
uygun	29
uyumak	42
uzak	79
uzanmak	36
uzatmak	38
uzun	132
(Ü)	
üç	32
ülke	184
ünite	54
ünlü	37
ürün	67
üvey	26
üye	26
üzülmek	56
üzüntü	25
(V)	
var olmak	227
vapur	35
varlık	41
varmak	36
vatan	35
vatandaş	29
verilmek	25
vermek	525
vurmak	35
vücut	25
(Y)	
yağış	55
yağmak	72
yağmur	93
yakın	31
yaklaşmak	84
yakmak	32
yalnız	85
yan	80
yangın	97
yanmak	37
yapılmak	85
yapmak	929
yaprak	85
yararlanmak	59
yaratmak	25
yardım	37
yaş	32
yaşamak	118
yatak	46
yatmak	55
yaz	112
yazı	203
yazmak	492
yedirmek	31
yemek	110
yeni	76
yer	639
yeşil	66
yetişmek	36
yetiştirmek	46
yıkamak	28
yıl	418
yılan	31
yıldız	37
yiyecek	80

Words	Frequencies
yok	45
yol	299
yolculuk	29
yorulmak	30
yön	30
yönetmek	34
yumurta	35
yurt	68
yutmak	41
yuva	54
yüksek	62
yükselmek	37
yün	26
yürümek	81
yüz	72
(Z)	
zafer	27
zaman	392
zambak	28
zarar	47
zavallı	49
zengin	42

APPENDIX B

A WORK SHEET FILLED IN FOR THE SAMPLES

Article_____ Page No._____

Author_____ From_____

Publisher_____ To_____

1. Number of words in the sample _____
2. Number of sentences in the sample _____
3. Number of words not on common word list _____
4. Average sentence length (divide 1 by 2) _____
5. Dale score (divide 3 by 1, multiply by 100) _____
6. Multiply average sentence length (4) by .0496 _____
7. Multiply Dale score (5) by .1579 _____
8. Constant -3.6365 _____
9. Formula raw score (add 6, 7, 8) _____

Average raw score of samples _____

APPENDIX C
THE DIRECTIONS FOR FILLING OUT THE WORK SHEET

1- Selecting samples

Take approximately 100 words about every tenth page for books. For articles, select about four 100-word samples per 2000 words. Space these samples evenly. For passages of about 200 to 300 words analyze the entire passage. Never begin or end a sample in the middle of the sentence.

2- Labeling work sheet

Enter such information as title, author, publisher, date of publication, etc., regarding the sample to be appraised.

3- Counting the number of words

a) Count the total number of words in the sample.
b) Count hyphenated words and contractions as one word.
c) Count numbers as words: 10 is one word; 1947 is one word.
d) Count compound names of persons and places as one word.
e) Do not count initials which are part of a name as separate words.
f) Record the number of words under 1 of the work sheet.

4- Counting the number of sentences

a) Count the number of complete sentences in the sample.
b) Record this under 2 of the work sheet.

5- Counting the number of unfamiliar words

Words which do not appear on the common word list are considered unfamiliar. Underline all unfamiliar words, even if they appear more than once. In making this count, special rules are necessary for common and proper nouns, verbs and other parts of speech.
(A detailed discussion was given by Dale and chall on these rules. Bornovalı, on the other hand, has adopted the procedure, presented by Dale and Chall, to Turkish language. Since these modified rules were utilized in this study, the ones advised by Dale and Chall, in counting the number of unfamiliar words, were not given in this section).

6- Completing the work-sheet

a) The average sentence length (4) is computed by dividing the number of words in the sample by the number of sentences in the sample.
b) The Dale score and the percentage of words outside the common word list is computed by dividing the number of words, not on the common word list, by the number of words in the sample and multiply by 100.
c) Follow through steps 6 and 7 on the work sheet.
d) Add 6, 7 and 8 to get the formula raw score.
e) If you have more than one sample to analyze, get an average of the formula raw scores by adding all of these and dividing by the number of samples.

APPENDIX D
MODIFICATIONS DONE BY BORNOVALI IN COUNTING THE NUMBER OF UNFAMILIAR WORDS

1- Proper nouns: Names of persons and places were considered familiar even though they do not appear on the common word list (Japan, Smith, etc.)
Abbreviations were counted as unfamiliar but as one word only (P.T.T. and T.B.M.M. are one word each).

2- Common nouns: Plurals, inflected forms and possessive suffixes were considered not to change the root meaning and hence were not considered separate words (the same holds true for pronouns). For example "kapı", "kapılar", "kapıyı", "kapıda", "kapıya", "kapıdan", "kapının" were not counted as different; but "kapıcı" is counted as a different word because it has a a derivational suffix. It therefore becomes a new noun with a different meaning.

3- Verbs: All verbs are given in their infinitive forms in the list. Conjugations of verbs were not counted as different, but the passive and causative forms were considered different. For example, "bilmek", "bil", "bilirim", "bilirsin", "bilir", "bilemez", "bildi", "bilmişti", "bilecek", "biliyor", "bilmiyorum", "bilemiyor", etc. are not different. But "bilinmek" (passive) and "bildirmek" (causative) are different verbs with their own conjugations.

4- Adjectives: Adjectives derived from nouns such as "saatli bina" and "yakasız elbise" were counted as familiar if the nouns "saat" and "yaka" were included in the list.

5- Numbers: Numerals like 1947 and 18 were considered familiar. But if they were spelled out such as "kırk", they were counted as unfamiliar.

6- Miscellaneous: Particles which are written separately such as "mi", "imiş", "idi", and "da" were considered familiar.

APPENDIX E

LIST OF SELECTIONS FROM "İLKOKUL TÜRKÇE 3" USED FOR OBTAINING AVERAGE READABILITY SCORE FOR THIRD GRADE LEVEL

Pages	Number of Words	Number of Sentences	Number of Uncommon Words	Readability Scores
18	101	16	34	9.2650
28	106	17	35	9.1595
40	101	12	22	7.4934
45	103	20	26	7.8777
55	100	21	22	7.3465
67	100	22	15	6.2305
76	101	17	51	11.9044
86	101	21	21	7.1582
98	102	20	28	8.2240
105	103	21	14	6.0260
115	97	12	19	7.1303
127	101	13	32	9.0247

LIST OF SELECTIONS FROM "İLKOKUL TÜRKÇE 4" USED FOR OBTAINING AVERAGE READABILITY SCORE FOR FOURTH GRADE LEVEL

Pages	Number of Words	Number of Sentences	Number of Uncommon Words	Readability Scores
15	100	13	35	9.5445
26	102	13	34	9.2890
36	100	14	23	7.6225
45	102	11	21	7.3473
55	89	12	27	8.7946
66	101	15	34	9.2859
76	101	12	32	9.0568
85	102	21	29	8.3667
95	100	12	38	10.0500
107	102	16	19	6.8940
116	104	18	32	8.7816
127	104	15	29	8.3834
137	100	12	30	8.7868

LIST OF SELECTIONS FROM "İLKOKUL TÜRKÇE 5" USED FOR OBTAINING AVERAGE READABILITY SCORE FOR FIFTH GRADE LEVEL

Pages	Number of Words	Number of Sentences	Number of Uncommon Words	Readability Scores
18	104	21	33	8.8924
28	106	16	28	8.1360
35	104	12	31	8.7895
45	97	14	23	7.7277
58	101	12	29	8.6167
65	97	13	25	8.1029
75	103	10	40	10.2645
85	102	24	38	9.7298
95	101	23	34	9.1697
106	104	17	34	9.1020
115	107	11	31	8.6937
125	103	16	34	9.1680
135	106	17	37	9.4574
145	103	8	23	7.8010

LIST OF SELECTIONS FROM "ORTAOKULLAR İÇİN TÜRKÇE 1" USED FOR OBTAINING AVERAGE READABILITY SCORE FOR SIXTH GRADE LEVEL

Pages	Number of Words	Number of Sentences	Number of Uncommon Words	Readability Scores
6	107	17	30	8.3553
15	103	12	31	8.8199
25	104	18	26	7.8816
37	113	8	36	9.3837
46	100	8	42	10.9131
63	105	10	30	8.7612
71	103	16	28	8.1974
81	100	14	27	8.2470
87	107	10	49	11.4455
98	100	14	42	10.6155
108	100	18	26	8.0395
117	100	17	43	10.7238
131	105	17	26	7.8440
137	99	19	33	9.1478
147	101	26	38	9.8351

LIST OF SELECTIONS FROM "ORTAOKULLAR İÇİN TÜRKÇE 2" USED FOR OBTAINING AVERAGE READABILITY SCORE FOR SEVENTH GRADE LEVEL

Pages	Number of Words	Number of Sentences	Number of Uncommon Words	Readability Scores
5	104	17	42	10.2501
15	105	9	44	10.8485
28	103	10	41	10.4674
40	101	7	56	13.0858
47	116	13	41	9.6638
55	98	10	31	9.1273
65	103	9	32	9.0877
76	106	10	30	8.6510
85	104	12	43	10.6115
96	104	10	39	10.0538
105	110	15	21	6.9982
115	102	9	47	11.4579
129	104	10	21	7.3209
136	100	14	41	10.4576
145	101	17	46	11.1256
157	101	13	29	8.5671
166	101	8	32	9.2841

LIST OF SELECTIONS FROM "ORTAOKULLAR İÇİN TÜRKÇE 3" USED FOR OBTAINING AVERAGE READABILITY SCORE FOR EIGHTH GRADE LEVEL

Pages	Number of Words	Number of Sentences	Number of Uncommon Words	Readability Scores
5	104	8	33	9.2916
16	104	8	33	9.2916
30	109	9	27	8.1485
35	112	16	43	10.0459
45	111	11	40	9.8271
65	99	9	41	10.7214
76	108	10	46	10.8976
86	103	10	46	11.1992
100	102	16	47	11.2285
105	100	15	35	9.4937
115	111	11	38	9.5426
126	99	5	41	11.1579
138	101	12	31	8.9004
145	100	10	32	9.1853
157	100	10	31	9.0274
Additional Selections				
33	105	7	39	10.2454
68	106	12	34	9.1394
109	101	8	40	10.5162

APPENDIX F

INFORMAL GROUP READING INVENTORY

Sınıf : 7
Okunabilirlik Puanı: 9.8927
Yöneltici Soru : Bu parçada insanların Atlantik Okyanusunu geçme çalışmaları anlatılıyor. Bakalım ne gibi hazırlıklar yapılmış.

RA II ESKİ MISIRLILARIN İZİNDE

Eski Mısırlıların güneş tanrısı RA'nın adını taşıyan sazdan yapılma bir tekneyle okyanusu geçme denemesi başarısızlıkla sonuçlanınca, bilim adamları hemen ikinci deneme için hazırlıklara başladılar.

Bir yandan öncekinin benzeri bir tekne yapılırken, bir yandan da o teknenin neden battığı araştırılıyordu. Bunu anlamak çok kolaydı. Çünkü sazlar deniz suyunu emiyor ve tekne giderek ağırlaşıyordu. Bunu önlemek için pek çok araştırmalar yapıldı. Aslında teknenin her yanı su geçirmez vernikle kaplanıp bu sorun çözülebilirdi. Ama eski Mısırlılar zamanında bu olanak yoktu ki. Sonunda bir din kitabında rastlanılan birkaç satır bu sorunu çözümledi. Bu satırlarda, Akdeniz'de sazların su çeken köklerine katran zifti sürüldüğü yazılıydı. RA II için de aynı işlem uygulandı.

Sonunda tüm hazırlıklar tamamlanarak 17 Mayıs'ta RA II kocaman okyanusun engin maviliklerine doğru yelken açtı. Teknede dört ay yetecek kadar yiyecek ve içecek vardı. 150 testi su, kireç içine konserve edilmiş yumurta, çeşitli kuru sebze ve meyvalar, et ve çeşitli mezeler, pirinç ve ekmek. Ayrıca bir kafeste de 20 kadar tavuk yüklenmişti gemiye.

SORULAR

1- "Engin" kelimesinin parça içindeki anlamı aşağıdakilerden hangisidir? (15. satır, 2. kelime)
   a) Yüce
   b) Sonsuz
   c) Büyük
   d) Koyu

2- "Saz" kelimesinin parça içindeki anlamı aşağıdakilerden hangisidir? (1. satır, 8. kelime)
   a) Bir çeşit tahta
   b) Bir çeşit çalgı aleti
   c) Bir çeşit boya
   d) Bir çeşit kamış

3- "Tüm" kelimesinin zıt anlamı nedir?
   a) Hiç biri
   b) Hepsi
   c) Bazısı
   d) Bir kaçı

4- "Yükleme" kelimesinin zıt anlamı nedir?
   a) Boşaltma
   b) Ekleme
   c) Azaltma
   d) Yükseltme

5- "Araştırılıyordu" kelimesini hecelere ayırırsak nasıl olur
   a) Araş-tı-rı-lı-yor-du
   b) A-raş-tır-ı-lı-yor-du
   c) A-raş-tı-rı-lı-yor-du
   d- Araş-tır-ılı-yor-du

6- "Rastlanılan" kelimesini hecelere ayırırsak nasıl olur?
   a) Rast-lan-ı-lan
   b) Ras-tlan-ı-lan
   c) Rast-la-nıl-an
   d) Rast-la-nı-lan

7- Bir fiil olan "Önlemek" kelimesini isim haline nasıl getirebiliriz?
   a) Önlemeli
   b) Önlem
   c) Engel
   d) Engellemek

8- Bir sıfat olan "kuru" kelimesini fiil haline nasıl getirebiliriz?
   a) Kurumak
   b) Kuruca
   c) Kuruluk
   d) Kuruluş

9- "Olanak" kelimesinin eş anlamı aşağıdakilerden hangisidir?
   a) Seçenek
   b) Olanaksız
   c) İmkan
   d) İmkansız

10- "Önceki" kelimesinin eş anlamı aşağıdakilerden hangisidir?
   a) Öteki
   b) Bir evvelki
   c) Bir sonraki
   d) Alttaki

11- "RA" Eski Mısırlılar arasında ne anlama geliyordu?

12- Yapılan ilk tekne neden batmıştı?

13- Gemilerin batmasını önlemek için günümüzde nasıl bir çareye başvuruluyor?

14- Teknenin yapıldığı dönemde bu çözüm niçin denenmedi?

15- RA II için nasıl bir önlem alındı?

16- Günümüz teknolojisinin kullandığı madde ile RA II'de kullanılan maddenin ortak özellikleri nedir?

17- Bilim adamları yolculuğun yaklaşık olarak ne kadar süreceğini tahmin ediyorlardı?

18- Tekneye niçin fazla yiyecek ve içecek alındı?

19- Günlerce suda yol acaklarına göre, niçin ayrıca gemiye 150 testi su aldılar?

20- Eski devirlerde konserve nasıl yapılıyordu?

APPENDIX G
INFORMAL INDIVIDUAL READING INVENTORY

KÖPRÜ ALTI ÇOCUKLARI

Karanlık basmıştı. Önlerinden birçok gelip geçenler oluyor, elleri paketli kadınlar, çantalı erkekler bir taraftan bir tarafa gidip geliyorlar; bazıları da iskele üzerinde vapur vaktini bekleyerek dolaşıyordu. Herkes bir ayak önce evine kavuşmak için acele ediyordu.

Temiz giyinmiş bir bey ağır adımlarla uzaktan geliyordu. Önlerinden geçti. Mehmet'in gözü birdenbire beyaz bir şeye ilişti. Kalktı aldı. Bir zarf, içinde üç yüz lira para var.....

Çocuklara:

- Şu giden bey parasını düşürdü; koşup vereyim.

Sonra koşarak kalabalığın arasına karıştı. İhtiyar bayı güçlükle buldu. Ona:

- Bayım, önümüzden geçerken paranızı düşürdünüz, buyurun, dedi.

Sınıf : İlkokul 3
Okunabilirlik Puanı: 8.2149
Yöneltici Soru : Mehmet yerde bir şey görüyor. Acaba bu gördüğü şeyi ne yapıyor?

KÖPRÜ ALTI ÇOCUKLARI

Karanlık basmıştı. Önlerinden birçok gelip geçenler oluyor, elleri paketli kadınlar, çantalı erkekler bir taraftan bir tarafa gidip geliyorlar; bazıları da iskele üzerinde vapur vaktini bekleyerek dolaşıyordu. Herkes bir ayak önce evine kavuşmak için acele ediyordu.

Temiz giyinmiş bir bey ağır adımlarla uzaktan geliyordu. Önlerinden geçti. Mehmet'in gözü birdenbire beyaz bir şeye ilişti. Kalktı aldı. Bir zarf, içinde üç yüz lira para var!...

Çocuklara:

- Şu giden bey, parasını düşürdü; koşup vereyim!

Sonra koşarak kalabalığın arasına karıştı.

İhtiyar beyi güçlükle buldu. Ona:

- Bayım, önümüzden geçerken paranızı düşürdünüz, buyurun! dedi.

SORULAR

1- Olay günün hangi saatlerinde geçiyor?
2- Etraf niçin bu kadar kalabalık?
3- Herkes niçin acele ediyor?
4- Çocukların önlerinden geçen bey nasıl giyinmiş?
5- Mehmet'in gözünün ilişti̇ği zarfın rengi niçin önemli?
6- Mehmet zarfın içinde ne buluyor?
7- Zarfı kim düşürmüş?
8- Mehmet zarfın kime ait olduğunu nasıl anlıyor?
9- Mehmet'in davranı'ı nasıl bir harekettir?
10- Bu parçada anlatılmak istenen nedir?

Gökşen,Enver Naci. "Çocuk Edebiyatımız", İstanbul: Remzi Kitapevi, 1980, sayfa 128.

AĞDAKİ KUŞLAR

Avcının biri bir gün göl kıyısında bir yere ağını gerdi. Çok geçmeden bir sürü kuş yakaladı. Gelgelelim ağa takılan kuşlar öyle çoktu ki, hep birden uçarak ağı da kendileri ile birlikte sürüklediler. Onlar uçtukça, ağ da arkaları sıra uçup gidiyordu.

Avcı durur mu, o da başladı ağın ardından var gücüyle koşmaya.

Kuşların uçtuğunu, avcının da ha babam de babam koştuğunu gören bir köylü:

- Hay şaşkın hay, dedi. Koşuyorsun da ne oluyor sanki? Kuşlar havada uçuyor, sen yerde koşuyorsun. Bu gidişle onlara yetişeceğini sanıyorsan aklına şaşarım...

Sınıf : İlkokul 3
Okunabilirlik Puanı: 8.3248
Yöneltici Soru : Avcı kuşları nasıl yakalamaya çalışıyor?

AĞDAKİ KUŞLAR

Avcının biri bir gün göl kıyısında bir yere ağını gerdi. Çok geçmeden bir sürü kuş yakaladı. Gelgelelim ağa takılan kuşlar öyle çoktu ki, hep birden uçarak ağı da kendileri ile birlikte sürüklediler. Onlar uçtukça, ağ da arkaları sıra uçup gidiyordu.

Avcı durur mu, o da başladı ağın ardından var gücüyle koşmaya.

Kuşların uçtuğunu, avcının da ha babam de babam koştuğunu gören bir köylü:

- Hay şaşkın hay, dedi. Koşuyorsun da ne oluyor sanki? Kuşlar havada uçuyor, sen yerde koşuyorsun. Bu gidişle onlara yetişeceğini sanıyorsan aklına şaşarım...

SORULAR

1- Avcı ağını nereye gerdi?
2- Avcı ne yakaladı?
3- Kuşlar yakalanınca ne yaptılar?
4- Ağ niçin kuşlarla birlikte sürükleniyordu?
5- Avcı neyin peşinde koşuyordu?
6- Avcı yolda kime rastladı?
7- Köylüye göre, avcı kuşlara yetişebilir miydi? Niçin?
8- Köylüye göre avcı nasıl biri?
9- Sizce bir insan koşarak, havada uçan bir kuşun hızına ulaşabilir mi?
10- Sizce yere gerilen ağla kuşlar nasıl yakalanır?

Uyarlama, Tolstoy,Leo. "Davulun Sesi", Çeviren: Dilek Gökmen, İstanbul: Tomurcuk Matbaası, 1980, Sayfa 33.

KÜÇÜK TAHTA AT

Çocuklar çok heyecanlıydılar. Kasabalarına bir sirkle, atlı karınca geliyordu.

Tahta atlar!!.. Tahta atlar!!.. Ah! Parlak yeleleri, kırmızı kordonlarla süslenmiş eğerleri ile bu tahta atlar ne kadar güzeldiler!

Bu tahta atların yaşantısı gerçekten imrenilecek gibiydi. Bütün işleri müzik eşliğinde dönmek, durmadan dönmek ve sırtlarına binen çocukları eğlendirmekti. Bunun için o şehir senin, bu kasaba benim durmadan dolaşıyorlardı.

Ama bu atlardan biri hiç de böyle düşünmüyordu. Hayatından memnun değildi. Çok sıkılıyordu. Aynı müzik parçasına uyarak dönmekten ve sırtında taşıdığı çocukları eğlendirmekten bıkmıştı artık. Uzanıp giden yollarda dört nala koşmak, sırtında gerçek atlar gibi, büyük insanları taşımak istiyordu.

Sınıf : 4
Okunabilirlik Puanı: 8.6529
Yöneltici Soru : Bu hikayede tahta atın bir sorunu vardır, bakalım neymiş?...

KÜÇÜK TAHTA AT

Çocuklar çok heyecanlıydılar. Kasabalarına bir sirkle, atlı karınca geliyordu.

Tahta atlar!!.. Tahta atlar!!.. Ah! Parlak yeleleri, kırmızı kordonlarla süslenmiş eğerleri ile bu tahta atlar ne kadar güzeldiler!

Bu tahta atların yaşantısı gerçekten imrenilecek gibiydi. Bütün işleri müzik eşliğinde dönmek, durmadan dönmek ve sırtlarına binen çocukları eğlendirmekti. Bunun için o şehir senin, bu kasaba benim durmadan dolaşıyorlardı.

Ama bu atlardan biri hiç de böyle düşünmüyordu. Hayatından memnun değildi. Çok sıkılıyordu. Aynı müzik parçasına uyarak dönmekten ve sırtında taşıdığı çocukları eğlendirmekten bıkmıştı artık. Uzanıp giden yollarda dört nala koşmak, sırtında gerçek atlar gibi, büyük insanları taşımak istiyordu.

SORULAR

1- Çocuklar niçin heyecanlanmışlardı?
2- Yazar tahta atları niçin güzel buluyor?
3- Tahta atların ne renk kordonları vardı?
4- Tahta atlar ne iş yapardı?
5- Sirk sadece parçada sözü edilen kasabada mı kuruluyordu?
6- Tahta atlar hayatlarından memnun muydular?
7- Sizce parçadaki tahta at aynı müzik parçası ile dönmekten, çocukları eğlendirmekten niçin sıkılmıştı?
8- Atlar yükleri nerelerinde taşırlar?
9- Atlı karınca nedir?
10- Gerçek at ile tahta at arasında ne fark vardır?

Uyarlama: Bonzon, Paul-Jackgues. "Güneş Hırsızı Ayı" Çeviren: Belli değil. Ankara: Kurtuluş Yayınları, 1977, sayfa 39-40.

BALİNALAR

Bir süre susup dalgalara baktık.

- Kaptan, dedim. Nereye gidiyoruz?

- Balina bulmaya.

- Nerede bulacağımızı biliyor musunuz?

- Denizler engindir, Yunus. Ama onların da karalar gibi yolları, sokakları, caddeleri vardır. Sen evden okula, okuldan eve giderken belirli sokaklardan geçiyorsun, değil mi? Denizdeki canlılar da belirli yollardan geçerler hep. Balinanın geçeceği yolları biliyorum.

- Balinalar yırtıcı mıdır, Kaptan?

- Hayır, Yunus. Kendilerine kötülük etmeyene dokunmazlar bile... Bazı türleri tehlikeli sayılabilir. Ama bak, sana bir şey söyliyeyim: Yıllardır deniz diplerini araştırıyoruz. Bu arada yüzlerce balina ile karşılaştık, hiç biri bize en ufak bir kötülük etmedi. Ama biz insanlar onlara kötülük ediyoruz.

- Nasıl, diye sordum.

- Onları avlıyarak, dedi Kaptan. Balina avcıları yüzünden bu deniz devlerinin sayısı o kadar azaldı ki...

Sınıf : 4
Okunabilirlik Puanı: 8.7969
Yöneltici Soru : Balina tehlikeli bir hayvan mıdır?...

BALİNALAR

Bir süre susup dalgalara baktık.
Kaptan, dedim. Nereye gidiyoruz?
- Balina bulmaya.
- Nerede bulacağımızı biliyor musunuz?
- Denizler engindir, Yunus. Ama onların da karalar gibi yolları, sokakları, caddeleri vardır. Sen evden okula, okuldan eve giderken belirli sokaklardan geçiyorsun, değil mi? Denizdeki canlılar da belirli sokaklardan geçerler hep. Balinanın geçeceği yolları biliyorum.
- Balinalar yırtıcı mıdır, Kaptan?
- Hayır, Yunus. Kendilerine kötülük etmeyene dokunmazlar bile... Bazı türleri tehlikeli sayılabilir. Araştırıyoruz. Bu arada yüzlerce balina ile karşılaştık, hiç biri bize en ufak bir kötülük etmedi. Ama biz insanlar onlara kötülük ediyoruz.
- Nasıl, diye sordum.
- Onları avlıyarak, dedi Kaptan. Balina avcıları yüzünden bu deniz devlerinin sayısı o kadar azaldı ki...

SORULAR

1- Yunus nereye gidiyordu?
2- Yunus balinaların nerede olduklarını biliyor muydu?
3- Kaptana göre denizdeki canlılar ile insanlar arasında ne gibi bir benzerlik vardır?
4- Balinaların geçeceği yolu kim biliyordu?
5- Balinalar yırtıcı hayvanlar mıdır?
6- Balinalar kendilerine kötülük etmeyen insanlara saldırırlar mı?
7- Kaptana göre kötülük yapan kimdir?
8- Balinalar sayı olarak neden azalmışlardır?
9- Sizce Kaptan avcı mıdır?
10- Sizce Kaptanın yüzlerce balina ile karşılaşabilmesi için ne işle uğraşıyor olması lazımdır?

Milliyet Çocuk Dergisi, 20 Şubat 1984, Sayı 8, Sayfa 14'den alınmıştır.

UÇAK YOLCULUĞU

Alanı ilk defa görüyordum. Büyük bir binası vardı. Bu binanın geniş yolcu salonuna girdik.

Karşımızda dümdüz meydan, uçaklarla doluydu. Buradan ayrılan birçok yollar uzaklara doğru gidiyordu. Bunlara "pist" denirmiş. Uçak, önce pistin üzerinde yürür yürür, öyle kalkarmış.

Uçakların kimi iniyor, kimi kalkıyor, kimi de duruyordu. Her biri kocaman bir çekirgeyi andırıyordu. Meydanda dolaşan işçiler bunların yanında o kadar küçük kalıyorlardı ki...

Salonun hoparlörü de durmadan çalışıyordu:

- Filan uçak geldi... Filan uçak beş dakika sonra kalkacak. Falan yolcuyu telefona istiyorlar...

Derken bizi de çağırdılar. Meydana indik. Yan tarafına merdiven dayalı dev bir uçağa doğru yürüdük. Basamakları çıkarken heyecanım artmıştı. Kapıda mavi elbiseli bir bayan bizi güler yüzle karşıladı. Onun gülümsediğini görünce rahatladım.

Sınıf : 5
Okunabilirlik Puanı: 8.9477
Yöneltici Soru : Hikayedeki çocuk yolculuğunu neyle yapıyor?..

UÇAK YOLCULUĞU

Alanı ilk defa görüyordum. Büyük bir binası vardı. Bu binanın geniş yolcu salonuna girdik.

Karşımızda dümdüz meydan, uçaklarla doluydu. Buradan ayrılan birçok yollar uzaklara doğru gidiyordu. Bunlara "pist" denirmiş. Uçak, önce pistin üzerinde yürür yürür, öyle kalkarmış.

Uçakların kimi iniyor, kimi kalkıyor, kimi de duruyordu. Her biri kocaman bir çekirgeyi andırıyordu. Meydanda dolaşan işçiler bunların yanında o kadar küçük kalıyorlardı ki...

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SORULAR

1- Uçakların kalkıp indiği yere ne denir?
2- Yolcular uçağa binmeden önce nerede beklerler?
3- Dümdüz meydanda neler vardı?
4- Alandan birçok yollar ayrılıyordu. Acaba bu yollar, ne için kullanılıyordu?
5- Uçak niçin önce pistin üzerinde yürüyor, sonra havalanıyor?
6- Hikayeyi anlatan çocuk uçakları neye benzetiyor?
7- Alanda bekleyen uçaklar ve yolculardan başka kimler vardı?
8- Uçakların geliş ve gidişleri ile ilgili bilgiler yolculara nasıl veriliyordu?
9- Hikayeyi anlatan çocuk uçağın basamaklarını çıkarken niçin heyecanlanıyordu?
10- Gülümseme insanı niçin rahatlatır?

Gökşen,Enver Naci. "Çocuk Edebiyatımız". İstanbul: Remzi Kitabevi, 1980, sayfa 190.

YUNUS DENİZDE

Geceyi gemide geçirdim. Gemidekilerin hepsiyle arkadaş oldum. Kardeşim Ayşe'yi, sınıfımı, televizyonda izlediğim programları anlattım onlara. Adımın anlamını sordular; öğrenince de pek keyiflendiler.

- Meğer senin denizle ilgin doğuştan başlıyormuş, dediler.

Onlar da yunusları anlattılar bana. İnsanlarla oynayan, gelip onları gıdıklayan, karınlarını okşayan yunusları anlattılar. Sevimli ahtapotları anlattılar. Suların içinde gümüş denizaltılar gibi süzülen köpekbalıklarını, o kayalıklarda yaşayan garip yaratıkları anlattılar. Ağzım açık, büyülenmiş gibi dinledim... Sevinçden, coşkudan sabaha kadar da uyuyamadım. Erkenden kalkıp güverteye fırladım.

Biraz ötede dev bir balina gördüm.

- Kaptan, diye bağırdım. Kaptan!!.. Balina var!

Sanki "Balina var!" diye değil de, "Yangın var!" diye bağırmışım. Gemide kim varsa bir an içinde yanımda bitti.

Sınıf : 5
Okunabilirlik Puanı: 9.2057
Yöneltici Soru : Yunus'un gemide gördüğü neydi?...

YUNUS DENİZDE

Geceyi gemide geçirdim. Gemidekilern hepsiyle arkadaş oldum. Kardeşim Ayşe'yi, sınıfımı, televizyonda izlediğim programları anlattım onlara. Adımın anlamını sordular; öğrenince de pek keyiflendiler.

- Meğer senin denizle ilgin doğuştan başlıyormuş, dediler.

Onlar da yunusları anlattılar bana. İnsanlarla oynayan, gelip onları gıdıklayan, karınlarını okşayan yunusları anlattılar. Sevimli ahtapotları anlattılar. Suların içinde gümüş denizaltılar gibi süzülen köpekbalıklarını, o kayalıklarda yaşayan garip yaratıkları anlattılar. Ağzım açık, büyülenmiş gibi dinledim... Sevinçden, coşkudan sabaha kadar da uyuyamadım. Erkenden kalkıp güverteye fırladım.

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SORULAR

1- Hikaye nerede geçmektedir?
2- Yunus adı ne anlama gelmektedir?
3- Denizciler niçin keyiflenmişlerdir?
4- Yunus'un anlattıkları ile denizcilerin anlattıkları konular arasında ne gibi bir fark vardır?
5- Parçada adı geçen ve insanlardan kaçmayan deniz hayvanı hangisidir?
6- Denizciler köpekbalıklarını neye benzetiyorlardı?
7- Yunus niçin erkenden kalktı?
8- Güverte geminin neresidir?
9- Yunus güvertede niçin heyecanlandı?
10- Yunus'un çok heyecanlandığını en iyi hangi cümle anlatıyor?

Milliyet Çocuk Dergisi, 20 Şubat 1984, Sayı 8, Sayfa 14'den alınmıştır.

ÇEVREMİZ VE BİZ

Ben İzmit'liyim. İlkokuldaydım o zamanlar. Dersimizin konusu ne olursa olsun, arkadaşlarla hep çevre sorunlarını tartışırdık. Aklımızca çözümler bulurduk.

Bir kere denizi kirliydi İzmit'in. Biliriz, denizde köpük beyaz olur. Nerdee... Burada köpük kahverengidir. Çöp doludur deniz. Sahilde gazinoya gittiniz mi pişman olursunuz. Sinekler üşüşür üstünüze. Kokular da cabası...

İzmit'te her gün ayrı bir semtte pazar kurulur. Pazar bitince görün siz o semtin halini... Çöpler, sebzeler, meyvalar, kağıtlar... ve de sinekler... Her satıcı artığını ortaya bırakır. Mahalleli de o zaman çöpünü sokağa döküverir.

- Atmayın, deseniz,
- Aman sen de, herkes döküyor da ben mi dökmeyeyim? derler. Hem dökersem ne olur?

Ne olmaz ki... Herkes böyle düşünmese, kimse dökmese çöpünü sokağa. O zaman bütün kent çöplerden arınmış olurdu.

Sıra geldi fabrikalara. Onlar da bir başka sorun. Çoğu şehrin içinde. Dumanları hemen ciğerlere giriyor. Şu bacaları biraz daha uzun yapıp uçlarına da süzgeçler taksalar ya... Ya da kentin iyice dışına koysunlar fabrikaları... Bir yasa çıkmalı (Belki de vardır böyle bir yasa). Denizi, havayı, çevreyi kirleten fabrikalar kapatılmalıdır, diye.

Sınıf : 6
Okunabilirlik Puanı: 9.7183
Yöneltici Soru : Bu yazar çevresindeki nelerden şikayet ediyor?

ÇEVREMİZ VE BİZ

Ben İzmit'liyim. İlkokuldaydım o zamanlar. Dersimizin konusu ne olursa olsun, arkadaşlarla hep çevre sorunlarını tartışırdık. Aklımızca çözümler bulurduk.

Bir kere denizi kirliydi İzmit'in. Biliriz, denizde köpük beyaz olur. Nerdee... Burada köpük kahverengidir. Çöp doludur deniz. Sahilde gazinoya gittiniz mi pişman olursunuz. Sinekler üşüşür üstünüze. Kokular da cabası...

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- Atmayın, deseniz,

- Aman sen de, herkes döküyor da ben mi dökmeyeyim? derler. Hem dökersem ne olur?

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SORULAR

1- Yazara göre İzmit'in denizi nasıldır?
2- Denizin köpükleri ne renktir?
3- İzmit'te bir gazinoya gitmek zevkli bir şey midir? Neden?"
(Bornovalı, 1981, p.88)
4- İzmit'te pazar ne zaman, nerede kurulur?
5- İzmit'in pisliğinin belirtileri nelerdir?
6- Bir yere pazar kurulmasının iyi ve kötü yanları nelerdir?
7- Fabrikaların çoğu, İzmit'in neresindedir?
8- Fabrika bacalarının uzunluğu nasıldır?
9- Fabrika bacalarının ucuna takılan süzgeçler, sizce ne işe yarar?
10- Fabrikalardan çıkan duman niçin zararlıdır?

Bornovalı,Nevin, "An Instrument to Assess Reading Levels of Turkish Primary School Children. An Informal Reading Inventory" Yayınlanmamış Master Tezi, Boğaziçi Üniversitesi, İstanbul, 1981, sayfa 87'den alınmıştır.

CİMRİ ADAM

Zengin, zengin olduğu kadar da cimri bir adam vardı. Cimriliği her tarafta konuşulurdu. Bir gün bu adam camiye gitti. Namazdayken aklına birdenbire: (Acaba evde kandili söndürdüm mü?) diye bir kuşku geldi. Hemen evine koşarak, kapıyı çaldı. İçeriden ses veren hizmetçiye:

- Sakın kapıyı açma... Sözlerime kulak ver. Odada kandil yanıyorsa, hemen söndür. Kandilin yağı tükenmesin, diye emretti.

Hizmetçi:
- Peki, kandili söndüreyim ama, kapıyı neden açmıyayım?

Cimri:
- Kapının tokmağı aşınmasın, dedi.

Hizmetçi:
- Güzel... Kapıyı da açmıyayım. Ama sen camiden eve kadar yürümekle pabuçlarının eskiyeceğini düşünmedin mi?

Cimri adam bunun da cevabını verdi:
- Düşünmez olurmuyum hiç...Elbette düşündüm. Buraya kadar çıplak ayakla geldim. Pabuçlarım koltuğumun altında.

Sınıf : 6
Okunabilirlik Puanı: 9.7035
Yöneltici Soru : Tasarruf yapan herkes cimri midir? Cimri kime denir?

CİMRİ ADAM

Zengin, zengin olduğu kadar da cimri bir adam vardı. Cimriliği her tarafta konuşulurdu. Bir gün bu adam camiye gitti. Namazdayken aklına birdenbire: (Acaba evde kandili söndürdüm mü?) diye bir kuşku geldi. Hemen evine koşarak, kapıyı çaldı. İçeriden ses veren hizmetçiye:

- Sakın kapıyı açma... Sözlerime kulak ver. Odada kandil yanıyorsa, hemen söndür. Kandilin yağı tükenmesin, diye emretti.

Hizmetçi:

- Peki, kandili söndüreyim ama, kapıyı neden açmıyayım?

Cimri:

- Kapının tokmağı aşınmasın, dedi.

Hizmetçi:

- Güzel... Kapıyı da açmıyayım. Ama sen camiden eve kadar yürümekle pabuçlarının eskiyeceğini düşünmedin mi?

Cimri adam bunun da cevabını verdi:

- Düşünmez olurmuyum hiç... Elbette düşündüm. Buraya kadar çıplak ayakla geldim. Pabuçlarım koltuğumun altında.

SORULAR

1- Öyküdeki adamdan, niçin herkes söz edermiş?
2- Bir gün namazdayken adamın aklına ne geldi?
3- Kandil ne ile yanar?
4- Hizmetçiye kapıyı niçin açmamasını söyledi?
5- Adam, eve nasıl dönmüş?
6- Adam, niçin pabuçlarını koltuğunun altına almış?
7- Adamın davranışlarından hangisi daha akla yakındır?
8- Niçin?
9- Tasarruf yapan herkes cimri midir?
10- Cimri kime denir?

Bornovalı,Nevin, "An Instrument to Assess Reading Levels of Turkish Primary School Children. An Informal Reading Inventory" Yayınlanmamış Master Tezi, Boğaziçi Universitesi, İstanbul, 1981, sayfa 85'den alınmıştır.

YUNUSLAR DA ŞARKI SÖYLER

Deniz dibi hayvanlarının seslerini teybe alma çalışmaları sırasında, Profesör, yardımcısına bir erkek yunusa kuvvetle seslenmesini istemiş. Yardımcı, cam bir tankın içinde olduğu halde tüm gücüyle yunusa bağırmış. Yunus buna o kadar şiddetli bir sesle karşılık vermiş ki, zavallı yardımcı kulaklıklarını fırlatıp atmak zorunda kalmış ve daha sonra kulaklarındaki ağrılardan yakınmış. Yardımcının seslenişine çok sinirlenen yunus, vücudunu kamburlaştırarak kızgınlığını göstermiş. Yunusların sesleri son derece güçlüdür. Öyle ki bu sesin etkisiyle yakınındaki bir kuşun ölümüne neden olabilir.

Yine bir başka balığın çıkardığı ses, kilometrelerce öteden duyulabildiği gibi, köpekbalıklarının sesleri de çok uzaklardan gelen karmaşık ve büyüleyici güzellikte melodilerdir sanki. Ne yazık ki bu güzel şarkıları denizciler duyamıyor. Çünkü insanoğlunda bu sesleri duyabilecek nitelikte kulak yok.

Sınıf : 7
Okunabilirlik Puanı: 9.8930
Yönlendirici Soru : Denizde yaşayan hayvanlar nasıl konuşuyorlar?

YUNUSLAR DA ŞARKI SÖYLER

Deniz dibi hayvanlarının seslerini teybe alma çalışmaları sırasında, Profesör, yardımcısına bir erkek yunusa kuvvetle seslenmesini istemiş. Yardımcı, cam bir tankın içinde olduğu halde tüm gücüyle yunusa bağırmış. Yunus buna o kadar şiddetli bir sesle karşılık vermiş ki, zavallı yardımcı kulaklıklarını fırlatıp atmak zorunda kalmış ve daha sonra kulaklarındaki ağrılardan yakınmış. Yardımcının seslenişine çok sinirlenen yunus, vücudunu kamburlaştırarak kızgınlığını göstermiş. Yunusların sesleri son derece güçlüdür. Öyle ki bu sesin etkisiyle yakınındaki bir kuşun ölümüne neden olabilir.

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SORULAR

1- Hayvan sesleri, deniz dibinde nereye kaydediliyordu?
2- Profesör, yardımcısından ne istemişti?
3- Yardımcı, niçin camdan yapılmış bir tankın içinde bulunuyordu?
4- Yardımcı, yunusa nasıl bağırdı?
5- Acaba, yunus niçin o kadar şiddetli cevap verdi?
6- Yardımcı, yunusun sesini duymak için ne kullanıyordu?
7- Yunus, kızgınlığını nasıl gösterdi?
8- İnsanoğlu, deniz dibinde yaşayan hayvanların seslerini, sizce niçin duyamıyor?
9- Acaba deniz dibinde yaşayan hayvanlar birbirlerini duyabiliyorlar mı?
10- Acaba hayvanlar, sadece anlamsız sesler mi çıkarıyorlar?

Milliyet Çocuk Dergisi, 23 Ocak 1984, Sayı 4, Sayfa 46'dan alınmıştır.

GEMİLERİN ÖYKÜSÜ

Gemilerin öyküsü çok eski çağlarda başlar. İlk çağlarda insanlar ağaç kütüklerini kullanarak nehirleri geçiyorlardı. Bugün modern gereçlerle donatılmış gemiler okyanusları aşıyorlar. Bir futbol alanının üç misli büyüklüğündeki tankerler milyonlarca ton petrol taşıyor. Atom denizaltıları suyun yüzüne çıkmadan dünyayı dolaşabiliyorlar.

İlk gemi resimleri Mısır'da yapılmaya başlandı. Mısırlılar mağara duvarlarına, yaptıkları gemilerin resimlerini çizerlerdi.

Yunanlılar ve Romalılar kürekle ilerleyen gemiler yaptılar. Bunların burnunda koç başına benzeyen süsler vardı. Kürekleri de esirler çekerlerdi.

Orta çağda küreğin yerini yelken aldı. İnsanlar uzak yerlere yelkenli gemilerle geziler yapmaya başladı.

Sonra buhar makinesi bulundu. Buharlı gemilerin yapımına başlandı. Ama yelken unutulmadı. İlk buharlı gemiler de yelken kullanıyordu.

Gemi yapımı ilerleyince, daha dayanıklı tekneler yapıldı. Gemiler en son yenilikleri içeren modern gereçlerle donatıldı. Bugün insanlar buharlı gemileri kullanmıyorlar. Onların yerini petrol ve atom enerjisiyle işleyen gemiler aldı. Bu gemiler dünyanın dört bir yanında dolaşıyorlar.

Sınıf : 7
Okunabilirlik Puanı: 9.8790
Yönlendirici Soru : Tarihte ne tür gemiler kullanılmıştır?

GEMİLERİN ÖYKÜSÜ

Gemilerin öyküsü çok eski çağlarda başlar. İlk çağlarda insanlar ağaç kütüklerini kullanarak nehirleri geçiyorlardı. Bugün modern gereçlerle donatılmış gemiler okyanusları aşıyorlar. Bir futbol alanının üç misli büyüklüğündeki tankerler milyonlarca ton petrol taşıyor. Atom denizaltıları suyun yüzüne çıkmadan dünyayı dolaşabiliyorlar.

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Yunanlılar ve Romalılar kürekle ilerleyen gemiler yaptılar. Bunların burnunda koç başına benzeyen süsler vardı. Kürekleri de esirler çekerlerdi.

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SORULAR

1- İlkçağlarda insanlar nehirlerden geçmek için ne kullanırlarmış?
2- İlk gemi resmi nerede yapılmış?
3- Tarihte ilk gemiler neyle hareket ederdi?
4- Bu gemilerin başlarındaki süsler neye benzerdi?
5- Orta çağdaki gemiler neyle hareket ederdi?
6- Buhar makinesi bulununca ne oldu?
7- Buharlı gemiler, yelkenlilerden sizce ne bakımdan daha üstündü?
8- Sizce ilk buharlı gemiler, neden yelken de kullanıyorlardı?
9- Bugünün gemilerini işleten güç, eski çağlarda kullanılan güçlere oranla nasıldır?
10- Modern gemilerden biri de denizaltılardır. Geminin denizin altına inebilmesinin yararları sizce nedir?

Bornovalı,Nevin, "An Instrument to Assess Reasidgn Levels of Turkish Primary School Children. An Informal Reading Inventory" Yayınlanmamış Master Tezi, Istanbul, 1981, sayfa 90'dan alınmıştır.

APPENDIX H

RULES FOR ERROR COUNTING

a) If a student makes more than one type of error, on the same word, all these errors together count as one error.

b) If a student corrects his/her own error, it is still counted as error, since it is assumed that self-corrections decrease the rate of reading.

c) If a student omits more than one word, consecutively, this counts as one error.

d) If a student adds more that one word, consecutively, this counts as one error.

e) If a proper name or a difficult word appears in a selection more than once, and if a student mispronounces then every time they appear in the text, this is also count as one error. It is assumed that words with more than four syllables are considered difficult words. If the word is a simple one, errors count separately each time they occur within the same text.

APPENDIX I

THE DATA RECEIVED FROM THE TOTAL GROUP, EXCLUDING THE ORPHANAGE STUDENTS

(N=228)

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
1	19	6,37	7,5	6,5
2	16	7,25	8	6
3	16	4,22	4	1,5
4	20	8,03	8,5	8
5	19	7,63	8	7
6	16	5,63	4,5	7
7	18	6,48	7,5	6
8	17	5,88	6,5	4,5
9	15	5,55	6	4,5
10	17	5,38	7	3
11	14,5	6,77	7,5	6
12	17	8,83	9	9,5
13	14	6,02	7	5,5
14	20	7,07	7,5	8
15	19	9,72	9,5	10
16	17	8,78	9	9,5
17	14	5,02	5	3,5
18	15	5,13	5,5	4,5
19	12,5	4,62	5	4
20	12,5	4,97	5,5	2,5
21	18	6,38	6,5	5,5
22	13	8,89	8	8,5
23	19	8,30	7	8
24	12	5,70	5,5	4,5
25	16	4,65	4	4,5
26	17	8,83	7,5	9
27	15	5,24	6	3,5
28	17	8,42	8,5	9,5
29	10	6,37	6	7,5

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
30	14	6,32	5,5	5,5
31	19	9,28	9,5	9
32	16	5,33	6	5
33	19	6,68	7	7
34	20	8,45	8	10
35	17	6,00	6	6,5
36	17	4,76	6	3,5
37	10	4,25	3	3
38	14	3,97	2	2
39	18	4,97	5	5
40	17	4,98	4,5	3
41	11	5,29	6	3,5
42	9	5,57	3	4
43	20	4,77	6	5,5
44	17	4,97	5,5	4,5
45	13	4,54	5,5	3,5
46	17	7,69	7	7,5
47	17	4,18	4	3
48	13	4,00	4	3
49	16	4,80	6	3
50	16	6,00	5,5	5
51	17	6,07	5,5	4
52	19	6,60	6,5	5,5
53	15	7,35	7	6,5
54	18	5,74	6,5	5
55	17	6,03	6,5	5
56	17	5,73	5	5
57	16	5,60	5,5	4
58	17	6,28	5,5	5
59	15	4,83	4	1,5

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
60	19	9,75	9,5	10
61	17	5,97	5	5
62	14	5,47	4,5	4,5
63	14	4,98	4	3
64	15,5	8,95	8,5	9
65	13	5,53	5,5	4
66	18	5,45	4,5	4,5
67	15	5,90	7	4,5
68	19	5,08	6	4
69	18	7,28	6,5	6
70	17	7,57	7	7
71	11	5,57	5	4,5
72	12	5,42	5	5
73	17	7,00	5,5	6
74	12	5,13	5	4,5
75	16	6,33	5,5	5
76	19	9,15	8,5	10
77	13	5,62	5,5	5
78	18	8,40	8	8
79	15	7,81	7	8,5
80	16	4,95	5	3,5
81	19	5,55	6,5	4
82	14	3,90	3,5	3,5
83	15	4,25	4,5	2,5
84	12	4,82	5	3
85	14	4,74	4,5	4
86	18	7,96	6,5	8
87	17	4,61	4,5	3,5
88	14	5,39	6	5
89	17	5,13	3	5,5
90	18	7,85	9	8,5
91	18	7,05	6	8,5
92	13	6,85	7	6,5
93	14	5,62	5	5,5

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
94	12	5,35	4,5	4
95	17	6,68	6,5	7
96	17	4,99	4	4,5
97	15	7,03	7	7
98	9	5,42	5	5,5
99	15	5,08	4,5	6
100	14	5,82	5	4,5
101	13	6,78	6,5	6,5
102	13	5,10	5,5	4
103	16	5,22	5	5,5
104	20	5,85	5	5,5
105	10,5	5,17	4	5
106	15	6,10	6	7
107	13	5,98	4,5	6
108	14	4,95	4,5	5
109	17	5,92	6	7
110	19	7,02	7	7,5
111	18	6,57	6	7
112	9	4,82	5	4
113	16	7,02	6,5	8
114	12	4,88	5	4,5
115	17	6,08	5,5	7
116	13	4,77	4,5	2
117	16	7,77	7	9
118	19	7,32	7,5	7,5
119	17	7,32	6,5	7,5
120	18	6,38	5,5	6,5
121	10	4,57	3,5	4
122	16	5,28	5	5
123	15	6,00	5	5
124	19	7,53	7	6,5
125	16	6,05	6	6
126	18	5,15	4,5	5
127	15	4,95	5	4,5

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
128	18	7,18	6,5	7,5
129	14	5,23	5	6
130	15	9,57	9,5	10
131	16,5	4,93	4,5	4,5
132	12,5	3,05	3	2
133	10	4,40	3	4
134	16	4,75	5	3,5
135	15	4,65	4,5	4,5
136	16,5	4,97	4	5
137	14	4,01	3	3
138	18	4,56	4,5	6
139	15	4,97	5,5	5
140	3	1,74	1	3
141	12,5	4,97	4	4,5
142	18	4,68	4,5	4
143	17,5	6,22	6	7
144	14	5,33	5	4,5
145	18	5,44	5,5	5
146	20	6,30	6	6,5
147	18	5,47	5	4,5
148	15,5	7,77	7	7
149	17	5,08	5	4,5
150	18	7,00	6	7
151	18	5,73	5,5	4,5
152	17	7,97	6,5	8
153	20	5,08	5	5,5
154	19	5,28	5	4
155	19	8,89	8	9,5
156	19	7,80	7,5	7
157	18	5,32	5,5	5
158	17	5,23	4,5	5
159	13	6,17	5	5,5
160	16	5,32	5	4
161	18	5,52	5,5	4

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
162	18	5,43	5	6
163	14	5,42	5	4
164	18	7,97	6,5	8
165	18	5,93	5	4,5
166	18	7,40	6,5	9
167	15	5,42	4,5	4
168	18	7,50	7	6,5
169	19	6,87	6	7,5
170	20	8,32	7	9
171	13	6,50	6	5,5
172	19	8,30	7,5	8,5
173	16	5,30	4,5	5,5
174	19	9,07	8,5	9,5
175	18	5,83	4,5	5,5
176	18,5	5,75	5	6,5
177	17,5	5,60	5	5,5
178	16	4,79	4	3
179	15,5	6,68	5,5	6
180	19	8,02	7,5	8,5
181	17	5,44	5	3,5
182	19	5,12	4	5,5
183	17	5,19	5	4,5
184	19	5,33	5	5,5
185	15	4,42	3,5	4,5
186	18	5,19	6	4,5
187	19	8,00	7	8
188	19	7,05	5,5	6
189	15	3,62	2,5	4
190	16	5,20	5	5
191	18	7,88	7	7,5
192	18	5,55	6	5,5
193	13	6,57	6	5,5
194	15	6,85	7	6
195	18	7,02	6	6,5

Participants	Group Reading Inventory Scores	GPA	Turkish Average	Math Average
196	17	6,04	5,5	5
197	14,5	5,00	4,5	3,5
198	18	6,04	5	6,5
199	17	6,97	6,5	5
200	18	6,33	5	6
201	17	5,15	5	4
202	16	4,77	4	4,5
203	12,5	5,37	5,5	4
204	19	6,15	6,5	5,5
205	16,5	6,49	5,5	6
206	18	6,37	6	6
207	18	5,37	5,5	6,5
208	14	6,90	6,5	6,5
209	18	5,92	5	5
210	16	6,10	6,5	5,5
211	18	6,80	7	6
212	14	4,84	5	5
213	17	6,00	6	6,5
214	16	7,22	7	7
215	20	8,27	8	8
216	15	4,33	4,5	4
217	19	8,40	7	8
218	18,5	7,42	7,5	8,5
219	17	7,92	8,5	7,5
220	17	5,70	6	4,5
221	18	6,52	5,5	7
222	16	4,83	5,5	4,5
223	13	5,42	5	5,5
224	9	5,50	5	4,5
225	17	5,05	5	4
226	18	7,92	7	7,5
227	17	6,47	6,5	6
228	20	5,89	5,5	5

THE DATA RECEIVED FROM THE ORHANAGE GROUP
(N=20)

Participants	Group Reading Inventory Scores	Individual Reading Inventory Scores	GPA	Turkish Average	Math Average
1	16,5	20	6,18	7	5
2	17	20	3,12	4	3
3	13	19,3	4,34	4,5	5
4	16	16,9	6,19	6	6
5	12	16,7	4,54	5	1,5
6	15	19	4,52	3	2,5
7	15	19,3	5,02	6	4
8	17	20	5,93	6,5	7
9	13	18,6	5,24	5,5	4
10	17	19,8	5,72	7	5,5
11	13	14,1	4,81	4,5	3,5
12	16	17,2	5,85	5,5	4,5
13	14	18,4	5,31	5,5	4,5
14	13,5	19,3	4,19	3,5	3,5
15	14	16,5	4,52	3,5	5,5
16	12	17,4	4,63	4	5
17	12,5	15,4	3,08	2	2
18	14	19,8	4,38	6	4
19	10	9,1	4,49	3	4,5
20	17	19,6	5,29	4,5	3

APPENDIX J

RELATIONSHIP BETWEEN THE INFORMAL GROUP READING INVENTORY AND THE INFORMAL INDIVIDUAL READING INVENTORY SCORES

In the analysis of relationship between the two informal reading inventories, the necessary data were obtained only for the small group. Therefore, this analysis is based on the performance of the orphanage seventh graders.

Reading comprehension levels were defined with respect to scores received at the seventh grade level. The results are presented in Table A, below.

TABLE A- The Frequency Distribution of The Informal Group and Individual Reading Inventory Scores With Respect to Three Different Reading Comprehension Levels (N=20)

Reading Comprehension Levels	The Number of Students for IGRI	IIRI
Independent	0	12
Instructional	19	7
Frustration	1	1

The scores obtained by the small group from the two reading inventories were found to be related, and the rank order correlation coefficient between two sets of scores was determined as .48. The results were significant at .025 level, indicating that the scores received from the group inventory were similar to those received from the individual inventory.

Another test, t-test for uncorrelated samples, measuring the mean differences between the two sets of reading scores of the same individual, was applied. It was found that the mean score received for the Informal Individual Reading Inventory ($\bar{x}$=17.82) was significantly higher than the mean

scores ($\bar{x}_2$ = 14,38) of the Informal Group Reading Inventory ($p<.005$), with 19 degrees of freedom and a calculated t-value of 8.02.

As a final step, Wilcoxon Test was applied, and the scores received from the two inventories were not found to be symmetric, indicating that the reading levels obtained from the group test were different from that of the individual test. The calculated t-value, 3,90, was found to be significant at .005 level, with degrees of freedom being 19.

In summing up these findings we can state that the two instruments, which were used to diagnose the reading comprehension stills of the participants, were found to be significantly correlated ($p<.025$). The mean scores received for the Informal Individual Reading Inventory, however, was significantly ($p<.005$) higher than that of the group inventory. Consequently the reading comprehension levels obtained from the individual inventory were found to be higher than the ones obtained from the group inventory.

BIBLIOGRAPHY

1- Anderson,T.W., An Introduction to the Statistical Analysis of Data, Boston: Houghton Mifflin Company, 1978.

2- Athey,Irene, "Language Development Factors Related to Reading Development", Journal of Educational Research, V.76, p.197-203, 1983.

3- Bloom, Benjamin S., Human Characteristics and School Learning, New York: McGraw-Hill Book Company, 1976.

4- Bornovalı,Nevin, "An Instrument to Assess Reading Levels of Turkish Primary School Children. An Informal Reading Inventory", Unpublished M.A.Project, Boğaziçi University, 1981.

5- Byrant,N.Dale, "Learning Disabilities in Reading", taken from Detection and Correction of Reading Difficulties, Edited by Emerald Dechant, New York: Meredith Corporation, 1971.

6- Dale,Edgar and Chall,Jeanne S., "A Formula for Predicting Readability", taken from Research in the Three R's, Edited by C.W. Hunnicutt and William J.Iverson, New York: Harper and Brothers, 1958.

7- Deccant,Emerald, Reading Improvement in the Secondary School, New Jersey-Prentice Hall, 1973.

8- Demiray, Kemal, Ortaokullar İçin Türkçe (Books for grades 6, 7, 8), Istanbul: Milli Eğitim Basımevi, 1983.

9- Ergenç,Hale, "Improving the Reading Comprehension of Lise Students", Unpublished M.A. Project, Boğaziçi University, 1982.

10- Feschbach, Seymour; Adelman,Howard; Puller, Williamson, "Prediction of Reading and Related Academic Problems", Journal of Educational Psychology, V.69, p.299-308, 1977.

11- Flanagan,J.C., "Project Talent", taken from Human Characteristics and School Learning, Bloom, Benjamin S., New York: McGraw-Hill Book Company, 1976.

12- Gilliland,John, Readability, London: University of London Press Ltd., 1972.

13- Goodman,Kenneth,S., "Reading: A Psycholinguistic guessing Game", taken from Language and Reading, Edited by Doris V. Gunderson, Washington: The Center for Applied Linguistics, 1970.

14- Göğüş,Beşir, İlkokul Türkçe (Books for Gradea 3, 4, 5), İstanbul: Milli Eğitim Basımevi, 1983.

15- Huntsberger,David V., Billingsley, Patrick, Elements at Statistical Inference, Boston: Allyn and Bacon, 1974.

16- Kellaghan,Thomas, "Relationship Between Home Environment and Scholastic Behavior in a Disadvantaged Population", Journal of Educational Psychology, V.69, p.754-60, 1977.

17- Kraus,P.E., "Yesterday's Children", taken from Human Chara Characteristics and School Learning, Bloom, Benjamin,S., New York: McGraw-Hill Book Company, 1976.

18- Lorge,Irving, "Predicting Readability", taken from Research in the Three R's Edited by C.W.Hunnicutt and William J.Iverson, New York: Harper and Brothers, 1958.

19- McCracken,Robert A., "The IRI as a Means of Improving Instruction", taken from Detection and Correction of Reading Difficulties, Edited by Emerald Dechant, New York: Meredith Corporation, 1971.

20- Miller,Wilma,H., Diagnosis and Correction of Reading Difficulties in Secondary School Students, New York: The Center for Applied Research in Education, 1973.

21- Razon,Norma, Özel Bir Okuma Bozukluğu (Disleksi), İstanbul: İstanbul Üniversity, 1976.

22- Robinson,Helen,M., "The Major Aspects of Reading", taken from Reading, 75 Years of Progress, Edited by H.Alan Robinson, Chicago: The University of Chicago Press, 1966.

23- Smith,Frank, Understanding Reading, New York: Holt, Rinehart and Winston, 1971.

24- Strang,Ruth, Diagnostic Teaching of Reading, New York: McGraw-Hill Book Company, 1969.

25- Thorndike,L.Robert, Reading Comprehension Education in Fifteen Countries, New York: John Wiley and Sons, 1973.

26- Walden,Tedra A., Ramey,Craig,T., "Locus of Control and Academic Achievement: Results from a Preschool Intervention Program", Journal of Educational Psychology, V.75, p.347-358, 1983.