*Full Length Research Paper*

# Investigation of high school students' reading compherension levels according to various variables

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The purpose of this study is to investigate the level of reading comprehension of high school students in their fields of study and learning strategies to explain the relationship between the level of reading comprehension. This working group is composed of 11th grade high school students.  In this study, relational model was used. In the study group 155 male and 85 female students are included. Öztürk's "General Learning Strategies Assessment Scale" developed by the researcher and "Reading Comprehension Test" was used to collect data. According to the findings, no significant differences were found in high school students' reading comprehension levels of gender. Students' achievement and learning strategies and significant relationship were found between the levels of reading comprehension.

**Key words:** Reading comprehension, learning strategies, achievement, gender, branch.

## INTRODUCTION

Language is the most important means of communication between people. Human beings transfer their emotions and ideas, knowledge to others through language, which is a system of symbols. The effort and requirement to communicate, which starts with transfer, draw attention to language, especially to native language. However, effective communication is possible when language is used effectively.

Using language effectively depends on developing comprehension and expression skills considering learning strategies. Therefore, four major language skills, which are reading, listening-monitoring, speaking and writing, are used in both language and native language teaching in order to achieve this purpose. This is because they will help students see events that they experience and observe from different perspectives: they will develop their decision making, problem solving, critical thinking competence and make them social individuals. For this reason, it is necessary for  students to acquire reading, listening-monitoring, speaking and writing skills and use them strategically.

Teaching native language and developing language skills are the issues which are emphasized sensitively and are becoming important increasingly in the education of students. Since recent researches have prompted new developments in language skills area, especially in reading, they have also raised the importance of courses providing native language teaching (Polloway and Smith, 1992: 7).

It is not possible to separate language skills at issue

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and learning domains from each other with certain lines because these domains affect and complete each other in learning process. However, when language teaching is considered as two general and comprehensive skills, that is comprehension and expression, it is possible to say that comprehension occurs depending on reading and listening-monitoring, and expression is required as a result of it.

When it is considered that comprehension is one step ahead of expression, the significance of reading and reading comprehension will be better understood.

## Reading and reading comprehension

Reading which has an effective role in learning and using a native language has been defined in various forms. Tazebay (2005: 4) thinks that "Reading is a complicated activity including various movements of eyes and speech organs and the effort of the mind to understand". Öz (2006) expresses reading as "grasping meanings of word forms by seeing in consequence of eye shifting on lines and vocalising them" Besides, it is possible to express reading as "the process of seeing, comprehending and grasping a writing with its words, sentences, punctuation marks and other components," (Kavcar et al., 2005); " a dynamic process of getting meaning which makes the active and impressive communication between an author and a reader necessary" (Akyol, 2006); "getting information from a text and explaining information by structuring" (Grabe and Stoller, 2002).

As it can be understood from these definitions, reading is not only an activity of vocalizing written symbols according to certain rules. In addition to vocalization, reading also means perceiving, comprehending emotions, ideas and messages in a text. If a meaning is not extracted from a text, a comment is not made on the text; it is not possible to assess it as a complete reading.

Elaboration of a text is possible through mental operations that a reader performs at each stage of reading. According to Smith and Dechant, reading comprehension skill consists of the following components:

"1. Relating graphic symbols, that is writing, and their meanings,
2. Giving appropriate meanings to the words in accordance with general content of a text,
3. Comprehending the meanings of idioms, sentences, paragraphs, and whole text hierarchically from part to whole and binding parts and the whole,
4. Evaluating what is read, understanding purpose and mood of an author,
5. Associating opinions in a text with past experiences" (Akt.: Dökmen, 1994:25).

In Turkish curriculum, reading is also defined as a process and it is described as a sophisticated situation consisting of various functions of eyes, voice and brain such as seeing, perceiving, vocalizing, comprehending, structuring in brain (MNE, 2006: 6). Students are expected to acquire reading comprehension skills at primary school level, whereas these skills are aimed at becoming high-level skills at high school level. That is why the expression "To comprehend and use skills of reading texts and passages accurately and well, understanding correctly and interpreting" is included in 9th, 10th 11th and 12th Grade Language and Expression Course Curriculum (2011: 2). Again, in the same curriculum, how and why units of language construct a new meaning around a message at a wider and higher level; the relationship of language unities with each other within this meaning are emphasized through practices performed on texts and passages (2011: 2). Accordingly, the idea that understanding and grasping structures to form a text with paragraphs in terms of "expression, structure, meaning and main idea, ways to support an idea" as inevitable for reading comprehension is emphasized especially in the paragraph chapter of the curriculum.

When it is considered that Turkish Literature and Language and Expression courses at high school complete each other, Turkish Literature course is expected to support reading comprehension studies as well. Although there are no objectives or attainments directly based on understanding a paragraph and a text in the course mentioned here, the investigations conducted on the importance of Turkish literature are those things converted into practice in Language and Expression course. Then, texts belonging to different eras are examined through text analysis and students are expected to be able to comprehend these texts. This reading effort must be at a higher level in comparison with reading at primary school level for both text and students' development. Robinson and Good (1987:145-146) think that reading comprehension is divided into 3 categories as literal comprehension, interpretive comprehension and critical comprehension.

**1. Literal comprehension:** it includes skills such as locating the information, collecting information, following the steps, determining characters, determining setting, following instructions, explaining author's structural design.

**2. Interpretive Comprehension:** It includes skills such as determining the main idea, selecting significant ideas, organizing ideas, developing concepts and principles, summarizing, testing outputs and effects, comprehending implied meanings, generalizing, determining relationships, forward looking predictions, determining what is significant and related, comparing information, deter-

mining applications, performing implementations, determining an author's purpose, tendency and motivation of characters, being able to enjoy, determining opinion and tendency of an author, completing an idea belonging to an author, comparing the setting with other settings, integrating the setting with personal experiences, forming emotional images, composing emotional responses, restructuring what is read, reading by considering spelling, drawing conclusions.

3. **Critical Comprehension:** It includes skills such as comparing what is read in terms of quality, value, accuracy, reality, partisanship, consistency, propaganda, relevance, sufficiency, reality or opinion; evaluating purposes and attitudes provided by the author; evaluating the subject in terms of surroundings;    evaluating the language in the surroundings; evaluating the general structure of the surroundings; evaluating author's expertise and information resources.

It is necessary to benefit from the following methods in order to achieve the steps of reading comprehension given above:

1. To determine the theme discussed in writing,
2. Detecting words whose meaning are not known, sentences and paragraphs which are not understood,
3. To determine the main idea,
4. To discover associate ideas,
5. To determine general mentality and wording of the text,
6. To decrease reading speed when the text is not understood (Demirel and Şahinel, 2006: 89).

These methods are the factors which need to be done in order to grasp the reading material because reading comprehension is the expected goal of reading process. The methods to be used in reading comprehension and the steps of reading comprehension are also related to an individual's prior knowledge, acquaintance with the theme, culture, life experiences, individual interpretation of expressions and words. Since each of these factors varies from person to person, reading experience is special to the individual (Carter et al., 2002: 136).

Reading comprehension is considered to be an integrated process requiring effective and conscious cognitive effort on a reading text. In this interactive and dynamic process, prior knowledge and experiences of a reader, his/her reading purposes are also as important as text type and nature (Kent, 2002: 22).

Students having difficulties in reading comprehension may experience problems in almost all studies conducted by a teacher, especially in comprehending and answering the questions in tests.  When this situation is taken into consideration, the significance of strategies improving reading comprehension stands out.

## Learning strategies

Strategy means someone's approach to a task or a situation. Learning strategies are techniques, principles or habits that enable students learn independently and on their own. The techniques, principles or habits mentioned here focus on how students will think and act when they plan and perform their learning tasks and evaluate results and performances (Katims and Harris, 1997).

Derry (1989) thinks that a plan developed and used by an individual in order to achieve a learning goal while performing a learning task is the learning strategy of that person. These strategies can be simple or complicated, logical or illogical. What is important is choosing a strategy appropriate for the learning task.

Nannette and Branda (1995) defined learning strategies as cognitive activities keeping students awake and affecting their success at all levels in order to increase comprehension and remembrance of knowledge. According to Nist (1993), learning strategies are the processes of reading, writing, listening, practising and critical thinking.

Weinstein and Mayer (1986) classified learning strategies in detail and they determined these steps through sample learning situations. In consequence of their research, they developed a classification consisting of 8 groups. In general terms, the strategies are examined in two groups as comprehensive group and simple group. When they are detailed, a classification appears as in the flowing. They advocated that one or some of these strategies must be selected in accordance with the trait of an individual's learning situations.

These strategies are;

1. Basic rehearsal strategies,
2. Sophisticated rehearsal strategies,
3. Elaboration strategies,
4. Sophisticated elaboration strategies,
5. Basic organization strategies,
6. Sophisticated organizational strategies,
7. Comprehension monitoring strategies,
8. Affective strategies,

The learning strategies mentioned above were developed depending on general cognitive models dealing with learning and information processing. Plitrich et al. (1993) believe that cognitive models and learning strategies are necessary for students to process the information they obtain from a text or a course. Appropriate strategies among basic and sophisticated strategies must be used in order to achieve the mentioned learning. Among these strategies, the simple or basic one is the remembrance or rehearsal strategy. This strategy is based on rehearsing words and sentences helping remember knowledge. Sophisticated ones are elaboration and organization

strategies. Elaboration strategy includes activities such as summarizing, extracting significant points; whereas organization strategy includes learning activities such as making a draft and schematization. Comprehension monitoring strategies lead individuals to choose the most suitable strategy, use, monitor the process and rearrange after evaluation in performing a learning task. Affective strategies, on the other hand, help in removing the obstacles based on motivation and sentimentality. It is possible to employ affective strategies in order to remove or minimize the obstacles observed in students such as distractibility, having negative attitudes, having text anxiety (Sünbül, 1998).

For an effective learning, an individual should take learning responsibility and join learning effectively. Fulfilling learning successfully depends on using the most appropriate strategy. Starting with primary education, an individual must obtain knowledge and skill related to learning strategies. Thus, it is provided that individuals can both be more successful in their courses in formal education and improve themselves after formal education. It is thought that which strategy or strategies is used/are used is related to reading comprehension and success accordingly. While competence of reading comprehension is observed at various levels in students using different learning strategies, there are also researches displaying that there is a relationship between competence of reading comprehension and courses (Bloom, 1995). Bloom (1995) determined that there is a relationship between reading comprehension compe-tence of students and their success in maths, physical sciences, and language and literature lessons. In the results of this study, it is not expected that individuals who fail in reading comprehension will be interested in other course subjects, comprehend their course books and be successful accordingly. In this sense, considering the importance of reading comprehension and its relationship with strategies, students must determine their learning strategies, know their own learning processes.

An individual must use a learning strategy or strategies in which s/he can be active in reading comprehension and learning process and which is/are shaped according to him/her. However, another issue which needs to be determined is whether reading comprehension levels of an individual differ depending on different strategies.

In this study, the relationship between learning strategies of students and reading comprehension was tried to be interpreted. Based on whether a learning strategy used by students predicts comprehension or not, the significance of learning strategies and the necessity of raising awareness about this issue will be remarked.

The purpose of this study is to examine reading comprehension levels of high school students in terms of gender, their field of study and student success, and to explain the relationship of learning strategies with reading comprehension. For this purpose, we searched for answers to the following questions:

1. Does reading comprehension competence of high school students differ meaningfully by gender?
2. Does reading comprehension competence of high school students differ meaningfully by their field of study?
3. Does reading comprehension competence of high school students differ significantly by the condition of receiving certificate of achievement?
4. Is there a considerable relationship between high school students' success and their reading comprehension levels?
5. Is there a meaningful relationship between learning strategies of high school students and their reading comprehension levels?
6. To what extent do learning strategies used by high school students predict their reading comprehension levels?

## METHODOLOGY

### Research model

In this research, reading comprehension levels of high school students were investigated in terms of gender, field, achievement of students and their learning strategies through a comparative type of relational screening model. Relational screening models are those which try to determine the existence and degree of change between two and more variables (Karasar 1991: 81). Because most of educational problems have describable qualities, researches in screening models provide significant contributions in both theory and practice to understanding and increasing knowledge (Balcı 2001: 19-21).

### Study group

This study aims to examine the variety of reading comprehension level of high school students in Turkey. Therefore the study group of this research conducted in 2012-2013 academic year by using relational screening model consisted of 11th grade students from 4 different types of high schools from Konya City centre. Students from Selçuklu Industrial Vocational High School, Enderun Anatolian and Science High School, Muhittin Kılıç High School and Meram Trade High School from Konya city centre were included in the research. The research group consisted of 155 males and 85 female students, 240 students in total. The reason is in a different school to work is to evaluate the students in terms of the different levels of reading comprehension.

### Data collection tools

In the research, characteristics of students included in the sample were collected using Individual Information Form and the data related to the solution of the research problem were gathered using "General Learning Strategies Evaluation Form" developed by Öztürk (1995) and "Reading Comprehension Test" developed by the researcher.

## General learning strategies evaluation form

This scale was developed by Öztürk (1995). It is a 5-point Likert-type scale having 7 sub-dimensions and 63 sentences in total. These dimensions are the sub-dimensions of: attention strategies(1st ,2nd ,3rd ,4th ,5th ,6th items), rehearsal strategies ((7th , 8th , 9th , 10th , 11th , 12th , 13th , 14th , 15th items), elaboration strategy (16th, 17th, 18th, 19th , 20th 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th items), cognitive strategies (35th, 36th, 37th, 38th, 39th and 40th items), memory strategies (40th, 41st, 42nd, 43rd, 44th, 45th, 46th items), metacognitive strategies (47th, 48th, 49th, 50th, 51st, 52nd items) and affective strategy (53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd items) respectively. The scale measures mental strategies employed by a student in any subject. Reliability coefficients of the scale were calculated as .69 for the Attention Strategy, .78 for Rehearsal Strategy, .90 for Elaboration Strategy, .67 for Cognitive Strategy, .74 for Memory Strategy, 70 for Metacognitive Strategy, .76 for Affective Strategies. In order to determine the frequency of occurrence by each student, a five-point grading (never, rarely, sometimes, often, always) was employed.

## Reading comprehension test

In order to measure reading comprehension level of the high school students attending 11th grade, a reading comprehension test including 40 questions with 5 options was developed. While preparing the test, 50 questions at the paragraph level were prepared to determine reading comprehension level of the students. Paragraph questions; paragraph topic, main idea-the idea of finding help determine the structure of paragraphs; paragraph structure of general opinion and expression of the main title has been created. Language skills courses place among basic and general purpose "Understanding text parts correctly and interpreting gain skills" (MEB, 2011: 2) expression and paragraph achievement test so that unit forming the text is prepared from paragraph questions. Questions on paragraph consisted of main topics of paragraph's theme, determining main idea-supportive idea, paragraph structure and determining the general idea of the paragraph and description structure. The questions of the test were prepared under the titles given above and three experts were asked to opine on them and 10 questions were eliminated as they were not appropriate. The validity and reliability analyses of the test were done on an experimental group which included 148 individuals at high school level. In consequence of analyses done by using Component Factor Analysis, it was observed that factor loadings of the test accumulated in a single dimension. This single dimension explains 53% of the variance in reading comprehension. Factor loadings of the 40-item test were over 0.40. Item analyses related to the items of the reading comprehension test were conducted separately. As a result of item analyses, it was determined that most of the questions had item difficulty (pj) between 0.40 and 0.60 and distinctive power coefficient of items was above 0.30. The reliability analyses of the test were calculated using KR-20 reliability method and reliability coefficient of the test was calculated as .89.

## Analysis of the data

SPSS 18.0 program was used in the analysis of the data and t test, ANOVA, Post hoc comparison tests, Pearson's Moments Multiplication Correlation Coefficient and regression analysis were used as data analysis methods.

**Table 1.** Comparison of reading comprehension levels of high school students by gender.

| Gender | N | Average | s.s | t | p |
|---|---|---|---|---|---|
| Male | 155 | 11,11 | 6,220 | 5,578 | 0,000 |
| Female | 85 | 16,31 | 7,928 | | |

## FINDINGS

In this chapter, the findings collected in consequence of data analysis related to the problem of the research are included. As a result of conducted analyses, it was observed that whether or not reading comprehension levels of high school students changed in terms of gender, their field of study and achievement status. The relationship between students' reading comprehension and their learning strategies is given in the last part of the findings.

The distribution of the scores that the high school students got in the reading comprehension test is given in Table 1. This finding shows that there is a significant difference at the 0.05 level between reading comprehension levels of both genders. When score averages of the groups are taken into consideration, it was observed that female students had higher reading comprehension level in comparison with male students (Figure 1).

The data collected in consequence of comparison of reading comprehension levels of high schools students by the condition of receiving certificate of achievement are in Table 2.

In Table 2, reading comprehension levels of the students were considered by the condition of receiving a certificate of achievement. Reading comprehension scores of the groups show that there is a considerable difference according to the condition of receiving certificate of achievement. The analyses of Tukey test revealed that the high school students receiving certificate of achievement exhibited higher level of reading comprehension in comparison with those students not receiving certificate of achievement. The students receiving certificate of appreciation scored significantly higher than those receiving certificate of achievement and those not receiving any certificates.

The situation between reading comprehension levels of the high school students and their field of study (verbal, equal weight, numeric, vocational branches) is in Table 3.

In Table 3, reading comprehension levels of the high school students in terms of their field of study are given. The F value calculated on reading comprehension scores of the groups is 3,964. Reading comprehension levels by the field students study were differentiated meaningfully. According to the results of Tukey test, there were not significant differences among reading comprehension levels of the students studying in verbal and vocational
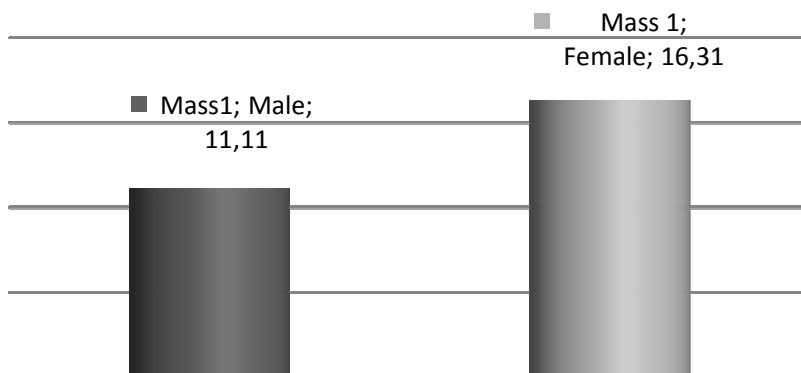
**Figure 1.** Reading comprehension levels of high school students by gender.

**Table 2.** Comparison of reading comprehension levels of high school students by the condition of receiving certificate of achievement.

|  | Average | N | s.s | f | p |
|---|---|---|---|---|---|
| Those receiving certificate of appreciation | 15,48a | 82 | 9,094 |  |  |
| Those receiving certificate of achievement | 11,91b | 96 | 5,812 | 11,706 | 0,000* |
| Those not receiving certificate of achievement | 9,43c | 62 | 3,476 |  |  |

**p<0,05, a, b, c: There are significant differences between averages given with different letters.

**Table 3.** Comparison of reading comprehension levels of high school students according to the fields of study.

| Field of study | Average | N | s.s | f | p |
|---|---|---|---|---|---|
| Verbal | 9,50b | 55 | 3,928 |  |  |
| Numerical | 13,67a | 64 | 6,308 |  |  |
| Equal Weight | 14,25a | 69 | 9,541 | 3,964 | 0,000** |
| Vocational Fields | 8,50b | 52 | 2,710 |  |  |

**p<0,01, a, b, c: There are significant differences between averages given with different letters.

fields. However, reading comprehension levels of the students studying in equal weight and numeric fields are significantly higher than their peers studying in verbal and vocational fields (Figure 2).

The relationship between students' success and their reading comprehension levels is given in Table 4.

In Table 4, analyses of relationship are seen between semester grade points of the high school students and their achievement in literature lesson and their reading comprehension levels. An r value at 0.374 level was calculated between the course of literature and reading comprehension levels of students, and an r value at 0.321 level was determined between their grade points and reading comprehension levels. This finding indicates that there is a considerable relationship between two achievement variables and reading comprehension levels. It has been determined that high school students who have high grade point and are successful in literature lesson possess high reading comprehension levels.

The relationship between learning strategies of high school students and their reading comprehension levels is given in Table 5:

Pearson's Moments Multiplication Correlation coefficient technique was used to analyze the relationship between learning strategies and reading comprehension levels of the high school students in the province of
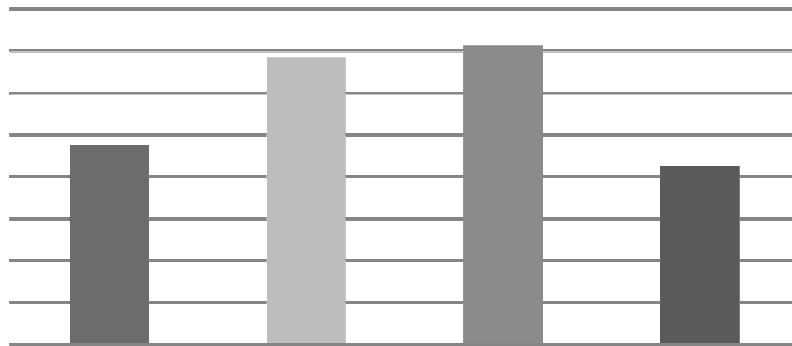
**Figure 2.** Reading comprehension levels of high school students according to their fields of study.

**Table 4.** The relationship between students' success and their reading comprehension levels.

| Students' success | r | p |
|---|---|---|
| Turkish Language and Literature Grade Point | 0,374 | 0,000 |
| Grade Point Success | 0,321 | 0,000 |

**Table 5.** The relationship between learning strategies of high school students and their reading comprehension levels.

| Learning Strategies | r | p |
|---|---|---|
| Attention | 0,131 | 0,043 |
| Rehearsal | 0,023 | 0,729 |
| Elaboration | 0,181 | 0,005 |
| Cognitive | -0,002 | 0,973 |
| Memory | 0,094 | 0,144 |
| Metacognition | 0,148 | 0,022 |
| Affective Strategies | 0,215 | 0,001 |

Konya. A meaning positive relationship was determined between 3 sub dimensions of the learning strategies scale and reading comprehension level. There is a meaningful relationship, which is considerably high, between elaboration (r=0,181), metacognition (r=0,148) and affective strategies (r=0,215) of the high school students and their reading comprehension skills. The students employing the mentioned strategies performed high level reading comprehension.

In Table 6, the effect of all sub-dimensions of the learning strategies scale on reading comprehension levels of the high school students is given.

The effect of all sub-dimensions of the learning strategies scale on reading comprehension levels of high school students is displayed in Table 6. For this purpose, the calculated regression value for all learning strategies was found as R=0.426. This result explains a statistically meaningful effect at 0.01 level. Among high school students, learning strategies explain 18.2% of the reading comprehension variable ($R^2$=0.182). In other words, approximately 18% of variance emerging in reading comprehension levels of the high school students results from learning strategies.

When the effects of sub-dimensions of the learning strategies scale are considered one by one, it is seen that elaboration, cognitive and affective strategies meaningfully predict reading comprehension levels of high school students. There is a positive effect in elaboration and affective strategies, whereas the effect in cognitive strategy is negative.

## RESULTS AND DISCUSSION

Depending on the findings of the current research, the following results were found:

1. A meaningful difference was determined between reading comprehension levels of high school students in terms of gender. It was observed that female students had higher reading comprehension in comparison with their male peers.

**Table 6.** The level of learning strategies of high school students predicting reading comprehension levels.

| R | R$^2$ | f | p | Learning strategies | t | p |
|---|---|---|---|---|---|---|
| | | | | Attention | 0,158 | 0,874 |
| | | | | Rehearsal | -1,771 | 0,078 |
| | | | | Elaboration | 3,368 | 0,001* |
| ,426 | ,182 | 7,368 | 0,000 | Cognitive | 2,168 | 0,031* |
| | | | | Memory | 0,914 | 0,361 |
| | | | | Metacognitive | 1,917 | 0,056 |
| | | | | Affective Strategies | 5,080 | 0,000* |

2. Reading comprehension levels of the students varied depending on receiving certificate of achievement. In this context, the highest reading comprehension levels were obtained by students receiving certificate of appreciation and students receiving certificate of achievement respectively. Similarly, a considerable relationship was determined between students' success and their reading comprehension levels. High school students who had high grade points and were successful in literature lesson performed higher levels of reading comprehension.

3. Reading comprehension competence of students differentiated meaningfully in terms of their fields of study. Reading comprehension levels of the students studying in equal weight and numeric fields are significantly higher than their peers studying in verbal and vocational fields.

4. Meaningful relationships were discovered between learning strategies of high school students and their reading comprehension levels. A meaning positive relationship was determined between 3 sub-dimensions of the learning strategies scale, which are elaboration, metacognitive and affective strategies, and reading comprehension level.

5. When the effects of sub-dimensions of the learning strategies scale are considered separately, it is seen that elaboration, cognitive strategies and affective strategies meaningfully predict reading comprehension levels of high school students. There is a positive effect in elaboration and affective strategies, whereas the effect in cognitive strategy is negative.

The first finding of the research is that there are significant differences among reading comprehension levels of high school students with respect to gender. Female students got rather high points in reading comprehension in comparison with their male peers. In the research conducted by Lehto et al. (2001) on 9th grade students, it was observed that the levels of reading comprehension and elaboration of a given text of female students were significantly higher than male students' levels. In a research done in Finland, it was determined that female students received better results in comparison with male students on nearly all reading tests and in answers given to questions measuring reading comprehension. The data on all school types and student levels indicate a meaningful difference on behalf of female students (LinnakylaE, 1995). LinnakylaE reports that this difference might result from many reasons and LinnakylaE also claims that especially academic discipline and academic expectations of female students are effective at this point.

In this research, a considerable difference was determined between general academic achievement and grade points of high school students in literature lesson and their reading comprehension levels. These findings are compatible with the results of many researches conducted at primary school, high school and university levels (Arslan, 1996; Belet, 2005; Çiftçi, 1998; Demirci, 2003; Görgen, 1997; Tay, 2007; Talu, 1997; Uysal, 2006; Yorulmaz, 2001; Sünbül, 1998). The results of the researches conducted by Lytenen and Tetho (1998) and Murray et al. (2009) are in parallel with these findings. According to a research done by Lytenen and Letho (1998), it was reported that there was a meaningful relationship, which was quite high, between reading comprehension and academic achievement. In their research, Murray et al. (2000) determined that reading comprehension skills and habits of students were among the most influential factors on academic achievement. It was considered that the most important reason of failure of students, especially those having very low achievement level, was their weakness in this sense. From this aspect, reading comprehension skills has prerequisite learning feature for all subjects. When this prerequisite is taken into consideration, it is possible to say that learning strategies must be taught to students as a subject. Students must study in accordance with their own learning strategies and they must become able to manage and control their own learning processes.

Meaningful relationships were observed between learning strategies of high school students and their reading comprehension levels. A meaningful positive relationship was determined between learning strategies

including elaboration, cognitive and affective strategies and reading comprehension levels. As a whole, learning strategies predict reading comprehension at a meaningful level. The results of this research are in parallel with the results of the research conducted by Thomas and Rohwer (1986), Kirby (1988), Baker and Brown (1984) and Anderson (1990).

Thomas and Rohwer (1986) believe that students' strengths in grasping and comprehending are strongly affected by their elaboration processes. In a similar study, Kirby (1988) states that while competent readers join a text by making sense of words, thus grasp each important dimension of a text, incompetent readers try to identify words. To overcome this deficiency, it is necessary to help students in analyzing a text or a paragraph with respect to significant and insignificant points and in solving it structurally. Researches have revealed the differences between competent and incompetent readers (Wasik et al., 1990: 609-10). Competent readers use coding and elaboration strategies and apply to the process of information processing rather than word-by-word reading or focusing on units (Baker and Brown, 1984).These readers are purposeful readers, use monitoring process of grasping constantly, use correction exercises when they fail to grasp the meaning. Anderson (1990) thinks that the most effective two factors in reading comprehension are prior knowledge about the text and the strategies used in structuring, diagramming or giving meaning. An individual who receives a strategic training on reading comprehension can arrange and improve his/her comprehension levels (Garner and Alexander, 1990). Students using elaboration and cognitive processes actively deliver effective performances in terms of;

1. Understanding the purpose of reading,
2. Using related prior knowledge effectively,
3. Providing knowledge on a base,
4. Evaluating a reading material consistently,
5. Monitoring reading comprehension levels
6. Drawing a conclusion from a text and evaluating conclusions (Palincsar and Brown, 1984).

McKeown (1994) believes that reading comprehension level is affected by how readers structure receiving information (Katims and Harris, 1997). Particularly, when reading comprehension levels of successful and unsuccessful students are taken into consideration, it is seen that cognitive awareness differs (Duffy et al., 1997). Thus, it is necessary for students to structure and interpret available texts, materials or learning situations. It was concluded in the research conducted by Bümen (2002) that students use interpretation and rehearsal strategies most and these strategies affect achievement in some subjects. In the doctoral thesis titled "The Effect

of Learning Strategies on Reading Comprehension, Writing Skills and Attitudes Related to Turkish Language Course", Belet (2005) states that using learning strategies develop reading comprehension skills of students. In their research, Saban and Tümkaya (2008) have determined that "there is a significant relationship between learning strategies and academic achievements of pre-service teachers. The needs of students having medium and low levels of success in terms of using learning strategies must be met and they must be supported in order to develop new learning strategies and to achieve effective learning on their own."

According to another result of the research, it has been determined that learning strategies used by high school students can explain 18% of reading comprehension success. In other words, 18% of change emerging among the reading comprehension levels of high school students results from learning strategies. Elaboration, cognitive strategies and affective strategies predict reading comprehension level meaningfully. There is a positive effect on elaboration and affective strategies, whereas there is a negative effect on cognitive strategies. Similarly, the results of the research done by Üredi and Üredi indicated that the most powerful predictor variable of students' success in Math subject was use of cognitive strategy. The research conducted by Emir and Özdemir (2004) showed that learning strategies could predict academic achievement.

## Suggestions

The following suggestions have been developed based on the collected findings:

1. Accomplishing learning process depends on using the most appropriate learning strategy or strategies by students. Thus, starting from early stages of formal education, students must be taught what learning strategies are, about knowledge and skills related to learning strategies. An individual must know which strategy is the most appropriate for him/her, and be self-sufficient with respect to using the right strategy.
2. Teachers must lead their students while using learning strategies. Teachers must provide their students necessary information on using implementation steps of learning strategies(analysing and identifying the target, planning a strategy, applying the strategy, monitoring the results of the strategy, making the strategy appropriate) consciously and help them in the implementation process.
3. In service training courses and seminars must be provided for Turkish Language and literature teachers in order to make them contribute to reading comprehension level of students. In addition, they must be encouraged to

use strategies oriented to students in their lessons.

4. Considering the relationship between reading comprehension skills points obtained in international exams and learning strategies, course contents must be revised depending on learning strategies which are often used by students in countries possessing high level reading comprehension skills.

5. Besides, based on exam results, curriculums must be revised in terms of variables such as book type considered to be effective on students' success, time allocated to reading, etc.

## Conflict of Interests

The author has not declared any conflict of interests.

### REFERENCES

Akyol H (2006). *Yeni programa uygun Türkçe öğretim yöntemleri.* Ankara: Kök Yayıncılık.

Anderson TH (1990). *Reader ano text- studying strategies. reading expository material.* New York: Academic Press.

Arslan M (1996). Altı çizili materyalle çalışma ve tam öğrenme yönteminin öğrenme düzeyine, hatırlamaya ve akademik benlik kavramına etkisi. Yayımlanmamış doktora tezi. Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Baker L, Brown AL (1984). Cognitive monitoring ın reading. In J. Flood (Ed.), Handbook of Research In Reading (p.353-395). New York: Longman.

Balcı A (2001). *Sosyal bilimlerde araştırma.* Ankara: Pegem A Yayıncılık.

Belet D (2005). Öğrenme stratejilerinin okuduğunu anlama ve yazma becerileri ile Türkçe dersine ilişkin tutumlarına etkisi. Yayımlanmamış doktora tezi, Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.

Bloom BS (1995). *İnsan nitelikleri ve okulda öğrenme.* (Çev. D. A. Özçelik), Ankara: Milli Eğitim Basımevi.

Bümen N (2002). 10. sınıf öğrencilerinin kullandıkları öğrenme stratejilerinin akademik başarıları üzerindeki etkisi. *Ege Eğitim Dergisi.* 1(2):86-95.

Carter C, Bıshop J, KRAVITS SL (2002). *Keys to effective learning.* New Jersey: Prentice Hall.

Çiftçi Ö (1998). Lise I. sınıf öğrencilerinin kullandıkları öğrenme stratejilerinin matematik dersindeki akademik başarıları üzerindeki etkisi. Yayımlanmamış yüksek lisans tezi, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Demirci C (2003). Etkin öğrenme yaklaşımının erişiye etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi.* 25:38–47.

Demirel Ö, Şahinel M (2006). *Türkçe ve sınıf öğretmenleri için Türkçe öğretimi.* Ankara: PegemA Yay.

Derry SJ (1989). Putting learning strategies to work. *Educ. Leadership.* 46(4):2-7.

Dökmen Ü (1994). *Okuma becerisi, ilgisi ve alışkanlığı üzerine psiko-sosyal bir araştırma.* Ankara: MEB Yayınevi.

Duffy GG, Roehler LR, Sivan E (1997). Effects of explaining the reasoning associated with using reading strategies. *Reading Res. Q.* 22:347-368.

Emir S, Özdemir N (2004). Atatürk ilkeleri ve inkılap tarihi dersindeki derse ilişkin tutum, akademik benlik kavramı ve öğrencilerin öğrenme stratejilerinin akademik başarıyı yordama gücü. *Abant İzzet Baysal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi.* 1(8):89-101.

Garner Ruth (1990). When children and adults do not use learning strategies: toward a theory of settings. *Review Educ. Res.* 60(4):517-529.

Görgen İ (1997). Özetleme ve bilgi haritası oluşturma öğretiminin bilgilendirici bir metni öğrenme ve hatırlama düzeyine etkisi. Yayımlanmamış doktora tezi, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Grabe W, Stoller FL (2002). *Teaching and researching reading.* London: Pearson Education.

Katims David S, Harris S (1997). Improving the reading comprehension of middle school students in ınclusive classrooms. *J. Adolescent Adult Literacy.* 41(2):116-123.

Karasar N (1991). *Bilimsel araştırma yöntemi.* Ankara: Sanem Matbaacılık.

Kavcar C, Oğuzkan F, Sever S (2005). Türkçe öğretimi: Türkçe ve sınıf öğretmenleri için. Ankara: Engin Yayınevi.

Kent AM (2002). An evalution of the reading comprehension strategies module of the alabama reading ınitiative with five elementary schools ın southwest alabama, unpublished doctoral dissertation, The University Of Alabama, http://www.proquestcompany.com.

Kirby JR (1988). Still, strategy and skill ın reading. ın r.r. schmuck (Edt.), *Learning Strategies and Learning Stills* (pp. 229-274). New York: Plenum Press.

Lehto J, Scheinin P, Kuapiainen S, Hautamaki J (2001). National survey of reading comprehension in finland. *J. Res. Reading.* 24:99-110.

LınnakylaE P (1995) Lukutaidolla maailmankartalle [the ıea study of reading literacy in finland]. JyvaÈ skylaÈ : Kasvatustieteiden tutkimuslaitos. (in Finnish)

MEB (2006). *İlköğretim Türkçe dersi (6., 7. ve 8. sınıflar) öğretim programı ve kılavuzu.* Ankara: Devlet Kitapları Müdürlüğü Basımevi.

MEB (2011). *Dil ve anlatım dersi 9, 10, 11 ve 12. sınıflar öğretim programı.* Ankara: Devlet Kitapları Müdürlüğü Basımevi.

Murray C, Goldstein DE, Nourse S, Edgar P (2000). the postsecondary school atendance and completion rates of high school graduates with learning disabilities. Learning Disabilities. *Research Practice.* 15:119-127.

Öz MF (2006). *Uygulamalı Türkçe öğretimi.* Ankara: Anı Yayıncılık.

Öztürk B (1995). Genel öğrenme stratejilerinin öğrenciler tarafından kullanılma durumları. Yayımlanmamış doktora tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü. Ankara.

Palinscar AS, Brown AL (1984). Reciprocal teaching of comprehension monitoring activities. *Cognition & Instruction*, 1 (2):117-175.

Plitrich PR, Smith DAF, Garcia T, McKeachie WJ (1993). Reliability and predictive of the motivated strategies for learning questionaire. *Educ. Psychol. Measure. (MSLQ).* 53:801-813.

Robınson R, Good TL (2007). *Becoming on effective reading teacher.* New York: Harper And Row Publishers.

Saban Aİ, Tümkya S (2008). Öğretmen adaylarının öğrenme stratejileri ile sosyo-demografik özellikler ve akademik başarıları arasındaki ilişkinin incelenmesi. *Ege Eğitim Dergisi.* 9 (1):1-22.

Sünbül AM ( 1998). Öğrenme stratejilerinin öğrenci erişi ve tutumlarına etkisi. Yayınlanmamış doktora tezi, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Talu N (1997). Ankara Özel Tevfk Fikret Lisesi 10. sınıf öğrencilerinin kullandıkları öğrenme stratejilerinin akademik başarıları üzerindeki etkisi . Yayımlanmamış yüksek lisans tezi, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Tay B (2007). Öğrenme stratejilerinin hayat bilgisi ve sosyal bilgiler öğretimi dersinde akademik başarıya etkisi. *Milli Eğitim Dergisi.* 173:87–102.

Tazebay A (2005). İlkokul öğrencilerinin okuma becerilerinin okuduğunu anlamaya etkisi. İstanbul: MEB Yayınları.

Thomas JW, Rohwer WD (1986). Academic studing: the role of learning strategies. *Educ. Psychol.* 21:19-41.

Uysal F (1996). Öğrenme sürecine etkin öğrenci katılımının öğrenme sonuçlarına etkisi. Yayımlanmamış doktora tezi, Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü, İzmir.

Üredi I, Üredi L (2005). İlköğretim 8. sınıf öğrencilerinin öz-düzenleme startejileri ve motivasyonel inançlarının matematik başarısını yordama gücü. *Mersin Üniversitesi Eğitim Fakültesi Dergisi.* 1 (2): 250-260.

Wasik  BA, Paris SG, Turner JC (1990). Comprehension monitoring, memory, and study stratgies of good and poor readers. *J. Reading Behavior*. 13:45-52.

Weınsteın C, Mayer RE (1986). The Teaching of learning strategies. in: witrock, M.C. (Ed.). *Handbook of Research on Teaching*. 315-327.

Yorulmaz E (2001). Öğrenmeyi öğrenme stratejilerinin ilköğretim sosyal bilgiler öğrenci ders başarısı üzerine etkisi. Yayımlanmamış yüksek lisans tezi, Onsekiz Mart Üniversitesi Sosyal Bilimler Enstitüsü, Çanakkale.