

## **Impact of Davis Dyslexia Correction Method on the Adult Dyslexics' Reading Skills**

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### **Abstract**

The present research investigated the efficiency of Davis Dyslexia Correction Method on adult dyslexics' reading skills. This quasi-experimental study, conducted in Tehran, examined 16 adult dyslexics (17-40 years of age) selected randomly through multi-stage sampling. Wechsler Adult Intelligence Scale (WAIS-R) and informal reading inventory were administered as preliminary diagnostic tests. Then Davis dyslexia correction method (orientation counseling and symbol mastery) was conducted on the clients individually for 30 sessions (each session 90 minutes). Post-tests were conducted upon completion of program (treatment). The results of T-test analysis showed that the intervention program significantly increased reading proficiency and comprehension in adult dyslexics substantially.].

**Keywords:** Davis Dyslexia Correction Method, Adult Dyslexia, Reading Skills.

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## Introduction

Reading is a complex phenomenon consisting of several distinct skills or behaviors which, like other behaviors in normal people, constitutes specific sequences and processes. The following are considered prerequisites to reading: phonological & language awareness, word awareness, and the enjoyment of reading: the development of language skills, motor skills, auditory skills, auditory and visual discrimination, and the ability to pay attention and focus in the performance of activities. And these are among the basic skills in the acquisition of reading (Gillet & Temple, 2000<sup>1</sup>). In Ehri's<sup>2</sup> view (2002), learning to read consists of two processes: encoding and comprehension. Despite receiving adequate training, having normal IQs, lacking any obvious biological (physical) weaknesses, and lacking socio-emotional problems and behavioral abnormalities, some children are not able to learn under the current teaching methods used in schools (Naderi and Seif Naraghi, 2003). Dyslexia<sup>3</sup> represents specific problems with comprehension, as well as issues with reproduction and unification of written symbols or codes; it includes perceptual, cognitive, and linguistic dimensions; it continues into adolescence and adulthood; in the course of growing and maturing, it leads to deficiencies in other skills (Babapour KheirAldin and Sabhi Gharamaleki, 2001) and over time, it brings about various emotional-behavioral changes (Ahdi and Kakavand, 2001).

Learning disorders<sup>4</sup> are one of the most common reasons for people's referral to rehabilitation centers, special centers of education, and learning disorder clinics. Among these, dyslexia accounts for the most common diagnosis. Almost 80% of children with learning disabilities have inadequacies in reading (Sadock<sup>5</sup> and Sadock, 2000). The proportion of students that

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1. Gillet and Temple
  2. Ehri
  3. Dyslexia
  4. Learning Disorders
  5. Sadock

have learning disorders has been reported to be between 4 and 12 percent (Tabrizi, 2005). In Hutzeler's<sup>1</sup> view (2005), over 25% of elementary school children's academic downfalls originate from reading inadequacies. Based on the research performed in Iran, the prevalence of learning disabilities has been reported as 11 percent, of which 85 to 90 percent is dyslexia (Shakiba, 2002). Upon reviewing already-conducted research in Iran, Behrad (2005) reports the prevalence of learning disabilities in elementary school students as 4.58 percent. Based on statistics published by the country's Ministry of Education in the academic year of 2006-07, over 8 million students are enrolled in elementary schools. Therefore, there are about 300 thousand dyslexic students who are in need of special education. However, the treatment and rehabilitation of most of them will not occur. Therefore, many of them grow with the same problem, because dyslexia is a disorder which does not correct itself without treatment, and continues into adulthood (Dadsetan, 2005). About 50 to 80 percent of adults who are studying in literacy classes have been identified as suffering from special learning disabilities (Shapiro and Rich<sup>2</sup>, 1999). The relatively high prevalence in this age group doubles the importance of this issue and brings into consideration the urgency of rehabilitative intervention.

Today, a wide range of the research performed by psychologists has been allocated to the examination of reading disorders from the angle of the effectiveness of rehabilitative interventions. Out of the different kinds of rehabilitative techniques, remedial and compensatory techniques can be named, which focus on the growth in basic skills, learning styles and strategies, cognitive abilities, and personality traits that are related to academic success. Remedial techniques can be classified into three major categories: the teaching of tasks, the teaching of processes, and a category that is a hybrid of tasks and processes (Kerk and Chalfent, Ronaghi Translation,

Khanejani and Vosoughi Rahbari, 1998). The Davis Dyslexia Correction Method is the latest, most comprehensive, and most complete multi-sensory method which has been developed as a hybrid-formatted approach for the treatment of dyslexic individuals (Smythe, Everatt, and Salter, 2004).

Davis does not view dyslexia as a result of such factors as brain damage or brain dysfunction. Rather, according to his view, three components are responsible for all the symptoms of dyslexia: a certain way of thinking (visual thinking), natural ability for perceptual disorientation (moving the mind's eye<sup>2</sup>), and a specific way of reacting to the disorientation (Davis and Braun<sup>3</sup>, 2003). Therefore, Davis has built his correction method for the elimination of these problems in two stages.

Davis (2006) is of the belief that dyslexia is a developmental and, to some extent, self-created disorder which causes confusion accompanied by frustration, and when this issue continues, it turns the learner into a full-scale dyslexic. Therefore, to prevent the confusion followed by perceptual disorientation, when working with symbols (reading, writing, spelling, speaking, and computing), it is necessary for orientation<sup>4</sup> to occur (Davis, Akhavan Tafti and Feizipoor Translation, 2005). Accordingly, the Davis Correction Method is performed in two stages: orientation counseling and symbol mastery<sup>5</sup>. These two stages are different from and at the same time complementary to each other. Perceptual problems are corrected with orientation counseling; the causes of dyslexia symptoms are corrected by symbol mastery.

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1. Smythe, Everatt, & Salter
  2. the mind's eye
  3. Braun
  4. orientation
  5. symbol mastery

The identification of spatial position or bias (Kerk and Chalfent, in reference to Ronaghi, Khanejani, and Vosoughi Rahbari, 1998) or orientation (Karimi, 2004; Wallace and Mclaughlin, Monshi Tousi Translation, 1997) is key to understanding the issues at hand. For this reason, in the orientation stage, the dyslexic's "mind's eye" is shifted upon a point that has the best reception and sensation; and in the symbol mastery stage, the dyslexic uses clay to create letters of the alphabet, punctuation marks, numbers, disorienting words, plus a model of their meaning (Davis, Akhavan Tafti and Feizipoor Translation, 2005).

A review of previously performed research with the use of the Davis Dyslexia Correction Method indicates that researchers have used this method to correct and improve the academic skills and performance of those suffering from learning disabilities. For example, Lichtman<sup>1</sup> (2001), Dedina<sup>2</sup> (2001), Pfeiffer<sup>3</sup>(2001), Hellendoorn<sup>4</sup> (2000), Jordan<sup>5</sup> (2000) and McConville<sup>6</sup> (1998) reported that the use of the Davis Correction Method has led to an improvement in the reading performance of adult dyslexics. The results of research performed by Stainsby (2003) showed that many adults who were at the risk of academic failure and dropout, such as Hall<sup>7</sup> (2003), Grant<sup>8</sup> (1999), and Allen<sup>9</sup> (1999), overcame their reading disabilities with the Davis Correction Method. In addition, afterwards, they were successful at receiving specialized licenses in the administration of the Davis Program and now they are dyslexia correction practitioners. Lee<sup>10</sup>

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1. Lichtman
  2. Dedina
  3. Pfeiffer
  4. Hellendoorn
  5. Jordan
  6. McConville
  7. Hall
  8. Grant
  9. Allen
  10. Lee

(2010) used Davis's guidelines to correct the symptoms of dyslexia. Research results showed that Davis Orientation Counseling helps dyslexics to correct visual perception problems and improve reading & writing skills; and Davis Symbol Mastery helps to identify and correct their word reversal problems.

In another investigation, Lovell<sup>1</sup> and colleagues (2001) evaluated the results of three other conducted studies regarding dyslexia. The findings of this investigation indicated that the Davis Correction Method targets attention deficit, cognitive, and reading problems; this corrective program is appropriate for eight-year-olds to adults, and the resulting progress depends on the individual's age. Accordingly, the higher the age of the dyslexic, the faster and better the resulting progress will be.

In order to examine the effects of the Davis Dyslexia Correction Method on preventing the occurrence of learning problems in students, Pfeiffer (2001) performed a 5-year longitudinal study on 30 kindergarten students. And it was determined that by using the Davis Symbol Mastery Method in the first years of education, one can prevent the occurrence of learning problems in students (Forman and Liberman<sup>2</sup>, 1999). The findings of the studies indicated that children at the pre-reading level who were taught with the Davis Method acquire the cognitive skills necessary for reading fluently and comprehending content faster and better; and they are at the highest possible level in their age group in the recognition of words. In Iran, Feizipoor (2005) likewise studied the performance of the Davis Dyslexia Correction Method on 4 fourth-grade dyslexic students. Results showed that the Davis Method caused an increase in their reading skills and an improvement in their educational progress. In addition to the many studies regarding the efficacy of the Davis Dyslexia Correction Method

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1. Lovell
  2. Forman & Liberman

on dyslexia, there have been investigations on the effectiveness of this method on dyslexics' psychological and emotional problems. For instance, Deci & Ryan<sup>1</sup> (2002), Marchentr & Paulson<sup>2</sup> (2001), Bell & Perfetti<sup>3</sup> (1994) , and Kosmos & Kidd<sup>4</sup> (1991) examined the performance of the Davis Dyslexia Correction Method on decreasing anxiety and changing the self-esteem of individuals suffering from learning disorders. Their study showed that in addition to an improvement in their reading, the participants in the treatment group had a significant decrease in anxiety and a considerable improvement in self-esteem.

In general, various studies in Western countries have shown the effectiveness of the Davis Dyslexia Correction Method on the treatment of learning problems in people with learning disabilities, and on their decrease in negative emotions and disappointments; but there have been no studies in Iran on the effectiveness of this Method on the treatment of adult dyslexia. In this regard, the main goal of this study is to examine the effectiveness of the Davis Training and Dyslexia Correction Method on the improvement of specific and nonspecific reading skills in adult dyslexics. Accordingly, the following hypothesis will be discussed:

The Davis Dyslexia Correction Method improves the reading skills of adult dyslexics.

## **Method**

### **Population, Sample, and Sampling Method**

The study is performed under the quasi-experimental one-group pretest-posttest design. Hence, first the subjects are administered a pre-test. Next, the subjects undergo experimental procedures and then they are administered a post-test.

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1. Deci & Ryan
  2. Marchentr & Paulson
  3. Bell and Perfetti
  4. Kosmos & Kidd

The population of this experiment consists of all the dyslexic adults between the ages of 17-40 and living in Tehran; 341 people were selected as the primary sample on a multi-stage random basis by contacting 8 centers from three educational settings (literacy schools, adult high schools, and regular high schools) in such a way that: Out of the 5 divisions of Tehran's Education Ministry (north, south, east, west, center), south was selected on a simple random basis, from that division, section 15 was randomly selected, from that section, 4 high schools (2 regular high schools and 2 adult high schools) were randomly selected, and from each high school, two classes were randomly selected. Then, to control factors related to economical and social levels, out of the 4 divisions of Tehran's literacy program (Sheminarat, east, west and south), the south division, which was comparable to the division pertaining to Tehran's Education Ministry, was chosen, from that division, 4 centers were randomly selected, and from each center 2 classes were randomly chosen (16 classes in total).

After the selection of the primary sample (classes), here is how the dyslexic individuals were chosen: After calculating the mean Farsi reading score in the selected classes, the teachers who taught at these schools were asked to present each individual whose score was two standard deviations below the pertinent level's mean and whose reading disorder was confirmed by the appropriate teacher. For more precise evaluations of dyslexia and IQs, Wechsler Adult Intelligence Scale was applied to these people to determine their IQs. Finally, focusing on the scores of the Diagnostic Test for Reading Disorders, 16 people were selected as the main sample of people with reading disorders. Their age range was 17-40 years, and they had normal IQs (90 and above) (Table 1).

Table 1: Demographic data of the dyslexic subjects, ages 17-40

Variable		frequency	percentage
Gender	Male	8	50
	Female	8	50
Education level	Elementary (literacy program)	8	50
	Regular high school	4	25
	Night high school	4	25
Profession	Student	4	25
	Self-employed	5	31.25
	Home maker	3	18.75
	Employee	3	18.75
	Unemployed	1	6.25

## Materials

1. Wechsler Adult Intelligence Scale – Revised (WAIS-R)<sup>1</sup>: To make an evaluation regarding the normality of IQs in subjects, as well as check for brain damage and any learning disorders in them, Wechsler Adult Intelligence Scale (WAIS-R) test was used.

Wechsler (1981) has reported that the reliability<sup>2</sup> coefficients for both halves of the test are 97% for full-scale IQ, 97% for verbal IQ, and 93% for performance IQ. The high correlation of the IQs obtained from WAIS-R's full-scale score with a large number of external criteria such as the Stanford-Binet test (0.85) and Slosson IQ test (0.78) is indicative of

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1. Wechsler Adult Intelligence Scale
  2. Reliability

the validity of this criterion (citing Marnat<sup>1</sup>, Sharifi and Nik-khoo Translation, 1379). Borhani (1384) has also reported similar psychometric properties in the standardization of the above-mentioned test.

2. Diagnostic Test for Reading Disorders: Since there is no standardized Farsi test for the evaluation of dyslexia in adults, the investigator had to use researcher-made tools for this purpose.

This test is based on Tabrizi's (2005) Reading Ability Evaluation Form and it includes a text of 2 paragraphs (about 100 words). In order to evaluate the subject's comprehension, two questions were derived from each paragraph (for a total of 4 questions). By subtracting the number of incorrectly-read words or non-read words from the total number of words (100 words), and by dividing the number of read words by units of time (seconds), each person's reading speed score was calculated. The reading comprehension test is worth 6 points and a value of 1.5 points is assigned to each question. The scoring system is as follows: If subject is unable to answer a question, he receives zero points; if he answers a part of a question and his answer is not complete, 0.5 points; if his answer is complete but he has used the same exact sentences and phrases that appear in the passage, then 1 point; and if subject's answer is complete and he has answered in his own sentences and phrases, he is assigned 1.5 points.

Under Tabrizi's (2005) view, if a subject is unable to decode more than 90% of the text's words and also is unable to comprehend 75% of the content, then he is deemed dyslexic. Based on this,

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1. Validity
  2. Marnat

if a subject's score on the reading portion of the above test is less than 90%, and less than 4.5 on the reading comprehension portion, then he will be deemed dyslexic.

During the review of the psychometric properties of the test, the test's validity was obtained from its content-related validity<sup>1</sup> and criterion<sup>2</sup>-concurrent<sup>3</sup>-related validity. The prepared content was evaluated by 15 professors and experts of language and speech for its word frequency, regularity in number of syllables, syllable structure of words, and also the structures of sentences in terms of meaning and grammar. Opinions and suggestions from these professors and experts were applied to the final text. The test's criterion-related validity was calculated to be 0.79 by computing the correlation coefficient between the individuals' reading ability and their average Farsi reading score in the first three months. The test's reliability was calculated to be 0.81 by the test-retest method<sup>4</sup> – with a time interval of 1 month.

3. Reading Ability Evaluation Index: To check the subjects' reading skills and abilities, the Michaeli (2001) Reading Ability Evaluation Index was used. This index has been prepared by taking advantage of the symptoms proposed by the International Dyslexia Association (2004), based on the fourth edition of the Diagnostic and Statistical Manual by the American Psychiatric Association (2000). The validity of this index has been confirmed by 5 specialists in rehabilitation centers for special learning disabilities and 2 psychology professors; and its reliability has been measured using Cronbach's alpha and reported as 0.83. This index contains two parts pertaining to reading problems in dyslexia: specific and nonspecific problems. These are described below:

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1. Content-related validity
  2. Criterion-related validity
  3. Concurrent-validity
  4. Test-retest

- A. Specific reading problems criteria: non-recognition of silent letters, non-recognition of non-silent letters, inversion of part of or an entire word, deficiency in combining letters, lack of structural analysis of words, non-recognition of visual words, repetition of a part of a word, out-of-context word substitutions, guessing of words, addition of parts of words, changing of verbs in sentences to their liking, out-of-context word additions, changing the sequence of letters in a word, reading of phrases incorrectly and without comprehension.

In order to evaluate this area of reading skills, the subject's voice was recorded while he was reading the pre-test and post-test content, and after analysis, the frequency of each problem was recorded in a table.

- B. Non-specific reading problems criteria: lack of proportionality between reading speed and difficulty of text, lack of interest in reading non-academic books appropriate for their age, lack of focus and comprehension of texts that they read, lack of skills in using a dictionary, lack of interest for rehabilitation, and not obeying punctuation rules.

In order to evaluate this section, a 6-scaled spectrum was used, in which each problem is assigned a number between zero to 5. "Not at all" is zero, "very low" is one, "low" is two, "moderate" is three, "high" is four, and "very high" is five. Based on the tester's observations and subject's remarks, the appropriate number is recorded in the table.

4. A case history form<sup>1</sup> (Karimi, 2004) was used to obtain information regarding the subject's medical history, motor development, speech and language, educational knowledge, and individual and family characteristics.

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1. Case history form

## **The Design and Implementation Process**

In order to select the sample from the population that was under study, after the selection of 341 people (16 classes from 8 learning centers) in a multi-stage random manner, those students whose Farsi reading scores were two standard deviations below the pertinent level's mean and whose reading disorder was confirmed by the appropriate teacher, were presented as people with dyslexia in a primary diagnosis. Then, Wechsler's IQ test was used to measure their IQ levels and the Diagnosis Test for Reading Disorders was used to make a definite diagnosis regarding dyslexia. Each subject was asked to read the text and answer the questions. While he was reading, the subject's voice was recorded and the number of errors and the reading time were noted, and from this data, the subject's reading comprehension score was calculated. After that, Reading Ability Evaluation Index and case history form were completed. Thus, the sample under study consists of 16 people who were chosen based on a diagnosis of dyslexia and the following qualifications: 1. Possession of normal IQ (90 and higher). 2. Age of 17 to 40 years. 3. Absence of visual, auditory, and speech disabilities.

After administering the reading test and recording the data, in order to assess the effectiveness of the David Training and Dyslexia Correction Method on reading abilities, the intervening method was firstly administered for 6 consecutive days and after that for 3 days a week, every other day in 90-minute sessions for 8 weeks (total of 30 90-minute sessions) in learning centers (high schools and literacy centers), on an individualized basis for each subject. The Davis Dyslexia Correction Method consists of the two stages of orientation counseling and symbol mastery. In the beginning, using the Perceptual Ability Assessment Method, the subject was asked to close his eyes and imagine a piece of cake (for the sake of administration uniformity) and by moving his mind's eye, observe the piece of cake from different perspectives and describe its features. After insuring that the subject was capable of mental imagery and movement of the mind's eye, orientation counseling began. In this stage,

the subject was assisted to move his mind's eye to a point located about 15 to 20 centimeters towards the top of and behind his head, on the body's midline; in such a way that he experiences stable and distortion-free vision, and so his reading ability improves considerably at the end of this stage because his disorientation and perceptual distortions are corrected with orientation counseling. After that, in the symbol mastery stage, the subject is asked to use clay to create each symbol (letters, punctuation marks, and numbers), identify it, and learn its usage. The objective of this stage is the thorough and complete understanding of what the individual reads. Thus, he was asked to read a passage, and observing rules of punctuation, create a mental picture of what he has read. At this point it is necessary for him to use symbol mastery for any word that caused him disorientation due to not knowing its meaning. To do this, with the help of the tester, the subject finds the meaning of the word in a dictionary, reads aloud its meaning and pronunciation, and using clay, creates a model of the described meaning, and finally makes a mental picture of what he has created. This exercise continues until the subject masters the disorienting words (words for which he does not have a congruent mental picture).

After the end of treatment, the Diagnostic Test for Reading Disorders was administered again as a "post-test", the Reading Ability Evaluation Index was completed, and finally the data were analyzed using descriptive statistics and statistical t-test.

## **Results**

Table 2 shows the frequency of the sample's specific and non-specific problems.

Variable		Frequency	Percentage
Specific reading problems	Non-recognition of silent letters	16	100
	Non-recognition of non-silent letters	16	100
	Inversion of part of or an entire word	3	18.75
	Deficiency in combining letters	14	87.5
	Lack of structural analysis of words	10	62.5
	Repetition of a part of a word	7	43.75
	Deletion of part of or an entire word	16	100
	Word substitutions	16	100
	Guessing of words	16	100
	Non-recognition of visual words	16	100
	Changing verbs in sentences to their liking	15	93.75
	Addition of parts of words	15	93.75
	Out-of-context word additions	15	93.75
	Changing the sequence of letters in a word	6	37.5
	Incorrect reading of phrases	14	87.5
Non-specific reading problems	No proportionality between reading speed & difficulty of text	16	100
	No interest in reading non-academic books appropriate for age	16	100
	Lack of focus and comprehension of texts that they read	16	100
	Lack of skills in using a dictionary	16	100
	Lack of interest for rehabilitation	15	93.75
	Disobeying punctuation rules	16	100
	Low self-confidence	16	100
	High anxiety	16	100
	Speech disorders	1	6.25

As is clear from table 2, all subjects have fundamental problems in reading, amongst which the most frequent problems in “specific reading problems category” are: non-recognition of silent letters, non-silent letters, and visual words, as well as deleting, substituting, and guessing of words. And the least frequent problems are:

changing the sequence of letters in a word and repeating part of a word. In addition, in the non-specific reading problems category, subjects have problems in all categories except the speech disorders category. There is only one subject with a problem in the last category.

-Analytical comparison of pre-test and post-test scores: Statistical comparisons for the sample population are presented in charts 1 and 2 and table 3.

As can be seen from these charts, which compare the pre-test and post-test results, the average scores for specific and non-specific reading problems have decreased in all categories.

Chart 1 - Comparison of the subjects' average specific reading problem scores in pre-test and post-test

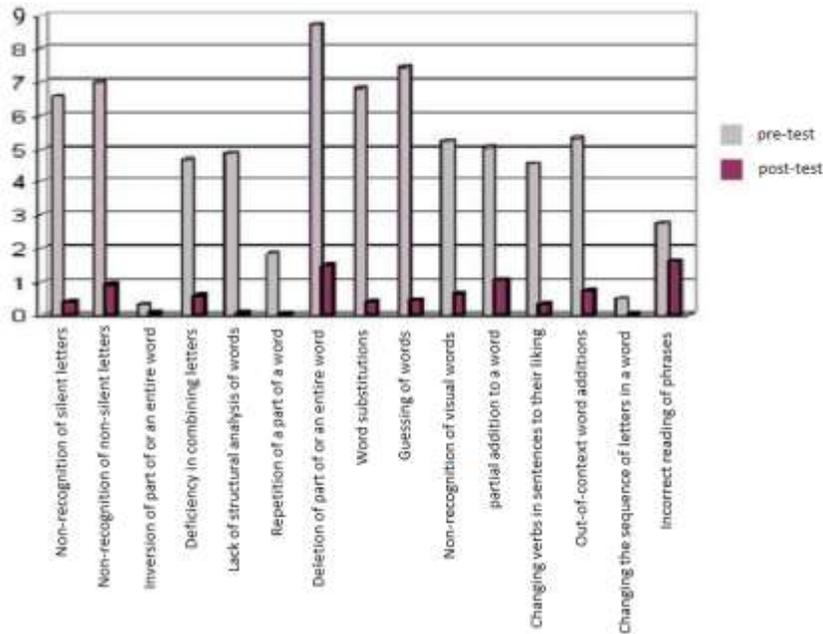
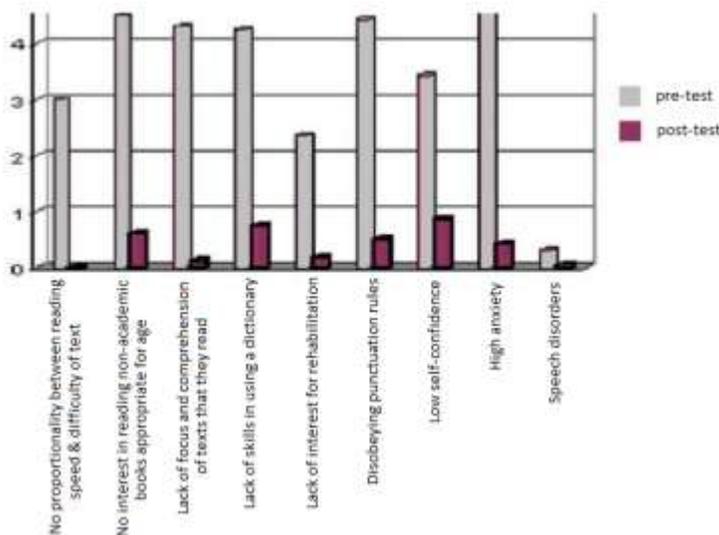


Chart 2 – Comparison of the subjects' average non-specific reading problem scores in pre-test and post-test



statistics variable	average		Standard deviation		Degrees of freedom	t	Significance level
	Pre-test	Post-test	Pre-test	Post-test			
Specific reading problems	71.75	8.12	24.16	4.93	15	11.62	0.001
Non-specific reading problems	42.37	4.18	38.95	1.51	15	3.91	0.001

Table 3 - Comparison of pre-test and post-test results pertaining to specific reading and non-specific reading problems in dyslexic adults

A dependent t-test was used to compare the sample group's average pre-test and post-test specific and non-specific reading problem scores. Table 3 shows that there is a significant statistical difference between the mean pre-test and post-test scores, and this difference is not due to sampling errors or random chance. In other words,

the Davis Correction Method has been able to considerably decrease adult dyslexics' reading problems.

### **Conclusion and Discussion**

This study examines the effectiveness of the Davis Method on improving specific and non-specific reading skills in dyslexic adults. A total of 16 subjects underwent training and rehabilitation. Based on the results of the study, the study's hypothesis was confirmed.

As shown in table 3, after the Davis Method, there is a significant difference between the pre-test and post-test scores pertaining to the subjects' reading problems. In this regard, the findings by Stainsby (2003), Lichtman (2001), Marchentr & Paulson (2001), Dedina (2001), Hellendoorn (2000), Allen (1999), MC Cornville (1998), and Kosmos & Kidd (1991) indicate that rehabilitative interventions involving the Davis technique have an impact on the dyslexic adults' reading efficiency; because the mentioned investigators were suffering from dyslexia, and they improved after using the Davis corrective and rehabilitative method, and now they are practitioners who use the method to rehabilitate others; or they have strong evidence indicating the effectiveness of the Davis Correction Method on adult dyslexia.

The study confirms the point that what instills a fear in a dyslexic person is the thought that others may think he is dumb when he incorrectly identifies a word or symbol, and this problem becomes more prominent when the person is being evaluated (Ransby, Marlin, and Swanson, 2003). The Davis Method helps dyslexics in identifying, managing, and controlling the confusing and disordered symptoms which cause perceptual disorientation and repeated reading errors. Since by controlling the position of the mind's eye, one can turn off the distorted perceptions and see and understand two-dimensional symbols and signs correctly, there will be no more worries regarding comprehending and remembering words or symbols; because

the philosophy behind the Symbol Mastery method is that the dyslexic is able to make a mental picture of words that are incomprehensible to him and then, using clay, convert them to visual and three-dimensional images. Because by creating a conceptual model of a word, the dyslexic will be able to think about it in both verbal and non-verbal ways. Symbol Mastery is a kind of learning process that does not involve conscious thinking or effort, and the ability of comprehending the obtained information is due to experience. When someone is experienced and adept at an activity, forgetting how to do that activity becomes impossible, because that activity has stuck in his mind and become part of his thinking and creative processes. In a way, the Davis Method actually instills a sense of mastery and capability in the dyslexic person, such that his reading skills improve considerably. This way, reading becomes an enjoyable experience and this makes a positive impact on his other problems. In a way, it could be said that these rehabilitative interventions, in addition to improving specific reading skills, cause improvements in non-specific reading areas as well (Davis, Akhavan Tafti and Feizipour translation, 2005).

The Davis Method is appropriate for improving both groups of dyslexic students: the students that read fast and the ones that read with excessive concentration (Snowling<sup>1</sup>, 2000); because the Davis Dyslexia Correction Method includes three techniques: spell-reading<sup>2</sup> (reading while spelling out the words), sweep-sweep-spell<sup>3</sup> (visually scanning words and spelling out unrecognized words), and picture-at-punctuation<sup>4</sup>. By spelling while reading, and using sweep-sweep-spell, the dyslexic learns to move his eyes from left to right for the English language and from right to left for the Farsi language and correctly identify the words and letters. This helps to eliminate the habits of reading things superficially and

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1. Snowling, M.
  2. Spell-reading
  3. Sweep-sweep spell
  4. Picture-at-punctuation

skipping words and lines. In addition, the picture-at-punctuation method is used for reading comprehension; because with this technique, the person is taught to create a mental picture of what he has just read when encountering one of the punctuation marks. (Lay Wahl, 2010; Davis, 2006)

In general, the results indicate that the Davis Model focuses on dyslexics' strengths (the fact that they think holistically and in terms of images) and uses these positive points as a method of linguistic intervention. In addition, the universal power of creativity, using visualization teaching strategies, and being learner-centered, are highly appealing. Using this method, learning that is associated with comprehension and understanding replaces learning that is based on memorization; and by relying on the acquisition of fundamental reading skills, as well as comprehension-oriented and creative learning, this method targets and eliminates the learning problems and obstacles pertaining to dyslexia

Thus, as a conclusion of this study, educators of learning disorders and psychologists can be suggested to use this method to make an effort in the improvement of reading skills and the elimination of the rest of problems that are associated with reading disabilities in adults. Therefore, the creation of "rehabilitation centers for adults with special learning disabilities" that use this method to treat learning disabilities seems essential. In this regard, organizing courses for the families or even the individuals themselves to familiarize them with the special characteristics of dyslexics, which is their different way of thinking, can help to better understand their situation and decrease their emotional-psychological pressures.

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