

## *Tanulmány*

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### **A Study of Developmental Dyslexia in Middle School Foreign Language Learners in Iran**

#### **Abstract**

Dyslexia, a reading disorder, is considered as the most common language disability in which individuals experience difficulties with language processing and specifically with reading. In spite of its widespread nature in Iran, not too many studies have been carried out on dyslexia compared to English-speaking countries. Also, the available studies have mostly focused on dyslexia in native language rather than in foreign language context so the findings in L2 context are not rich. The aim of the present study is to investigate whether Iranian dyslexic students have difficulties learning foreign languages (English and Arabic) and also to highlight the areas in which these individuals show the most difficulty. By the help of a questionnaire, information was gathered about the situation of dyslexic students as foreign language learners in middle schools. The findings showed that Iranian dyslexic students encounter many difficulties in learning English and Arabic as foreign languages and they are significantly weak in spelling, reading and phonological processing compared to normal students.

*Keywords:* Developmental Dyslexia, Reading, Foreign language learning, Middle school

#### **1 Introduction**

Today in our globalized and more unified world, the crucial importance of learning foreign languages cannot be denied by anyone. Knowing foreign languages offers many social and personal advantages to individuals. These advantages can change a person's professional and personal life in various ways. Consequently, foreign language learning has become an increasingly prominent part of education in almost all countries around the world. For the majority of students, foreign language learning is indeed an enriching and rewarding experience. However, this is not the case for every individual. For students with learning disabilities, such as dyslexia, it can be an unbelievably stressful and humiliating experience, the opposite of what is intended. Students with learning disabilities may do fine in other classes, but their difficulties emerge when they come to a language class (Schwarz 2007). Recently, scholars have shown a growing interest to study dyslexia in L2 context. In the present study a questionnaire was designed and used to fulfill certain goals. First, it intended to evaluate foreign language teacher's awareness regarding dyslexia and based on that, it revealed the current situation of these students and how they are treated in the system of education in Iran. Second, it intended to investigate whether Iranian dyslexic students had

more difficulties in learning foreign languages in comparison to non-dyslexic ones. Accordingly, the potential difficulties of these students were highlighted.

## 2 Background

Dyslexia is derived from the Greek *dys* meaning difficulty and *lexis* meaning word or language. This kind of learning disability was identified more than a hundred years ago and before the term *dyslexia* came to prominence, this learning disability used to be known as *word blindness* (Ghonsooly 2009). Developmental dyslexia is a specific learning disability. It is neurological in origin and categorically not related to factors such as socio-economic background, a lack of motivation to learn or IQ level (Ellis 1993). It is characterized by an unexpected difficulty in reading. Dyslexia can affect any part of the reading process, including difficulty with accurate or fluent word recognition, or both, word decoding, reading rate, prosody (oral reading with expression), and reading comprehension (Sedaghati et al. 2010). More formally,

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction (Lyon et al. 2003).

Despite the complexity of the phenomenon, dyslexia has been defined as the most common learning disability in the literature. Narimani et al. (2009) divides dyslexia into two types, primary and secondary. He believes the primary type of dyslexic disorders results from the disrupted pattern of the nervous system, and it is the imbalance of biochemistry or chronic nervous defect which leads to a disorder called inborn dyslexic retardation. In the secondary type of dyslexia, the potential learning ability and reading are normal but the problem is that, the learning ability is exploited inefficiently. Great number of research has been undertaken, and several possibilities have been proposed, but the exact causes of dyslexia are not completely unveiled yet. The most frequently mentioned cause can be inherited or genetic factors, but it can also be caused by neurobiological factors, which are brain development, crossed wiring, and early age hearing problems or even a combination of these factors (Dietz 2002).

During many years of research on dyslexia, researchers have come to a somewhat good understanding of the nature of the impairment, although the extent to which it might affect or transfer to learning a foreign language has not been fully covered in the literature. As more research is being done and more teachers are recognizing the problem, more solutions are being created for the students and teachers facing the challenge of learning and teaching a foreign language. However, the interest in the issue appears to be increasing (Helland & Kaasa 2005). In a study carried out by Ho & Fong (2005) Chinese dyslexic children were examined in order to find out whether they had problems learning English as a second language. They compared Chinese primary school dyslexic children with normally achieving children on a number of tasks relating to English vocabulary, reading and phonological processing. The results showed that the dyslexic group performed significantly worse than the control group in almost all the English measures. The findings postulated that Chinese dyslexic children also encounter problems in learning English as a second language, and they

are almost weak in phonological processing both in Chinese and English. However, phonological skills were found to correlate significantly with English reading but not with Chinese reading in the dyslexic children. They suggested that there are both common and specific causes to reading problems in Chinese and English. Phonological deficit is more specific to reading problems in English, while visual-orthographic deficit appears to be more specific to reading difficulties in Chinese. In another similar study carried out by Helland & Kaasa (2005), a group of Norwegian dyslexic English language learners were examined and compared to an age and gender matched control group. They developed a test battery of verbal and written tasks, based on which, they assessed their participants. They found significant differences between the dyslexia group and the control group. The dyslexic group had especial difficulty with morphology and spelling (cited in Ghonsooly & Javadian 2010).

The available studies on dyslexia in Iran are not many in comparison to the respective ones in English-speaking countries (Ahmady et al. 1992; Fallahchai 1995; Seif-e-Naraghy & Nadery 2005; Ghonsooly 2009; Narimani et al. 2009; Sedaghati et al. 2010). All these studies have focused on dyslexia in the native language. Ahmady et al. (1992), assessed the reading ability of the students in the first and second grade of primary school in a district in Tehran. The results of the study demonstrated that normal children in the first and second grade of the primary school usually encounter difficulties such as adding or missing out letters or words, repeating words, replacing words/letters with other words/letter, and the rate of reading is usually slow (cited in Seif-e-naraghy & Nadery 2005). Later, Fallahchai in his research (1995) demonstrated that 2% of the students in the sample population (20 primary schools) suffered from reading and writing disability. In another study conducted by Aminy (1998), in which he compared the reading skill of normal and dyslexic students in the first and second grade of primary school in Tehran, it was revealed that the reading performance of the dyslexic group was considerably weaker in comparison to the normal group (cited in Ghonsooly & Javadian 2010). In a more recent study investigating dyslexia among the ordinary students in 3 primary schools in Mashhad, it was found that dyslexia was more prevalent in boys than girls, and there was negative correlation between reading scores of the participants and their mathematics and science scores (Ghonsooly 2009).

Despite the above mentioned studies which were mainly oriented towards examining dyslexia in L1, there was only one study reported in the literature about English reading problems of dyslexic students in Iran. This study was carried out by Ghonsooly & Javadian (2010) in Mashhad. Ten Iranian students of the second grade of the secondary school with developmental dyslexia and ten normal students were assessed on a constructed test battery of reading, spelling, and phonological processing tasks. The findings showed that the dyslexic group performed significantly lower than the control (normal) group in all the English measures. Moreover, phonological processing skills were found to correlate significantly with English reading in the dyslexic group. The results support the view that there is relationship between phonological skills and reading ability in both L1 and L2.

The current study aims at investigating whether Iranian dyslexic students have problem learning foreign languages and further, reveals the areas in which these individuals experience difficulties.

### **3 Method**

#### **3.1 Data collection**

The structure of the education system in Iran is basically divided into five cycles namely, pre-school, primary, middle (or guidance), secondary and post-secondary. Foreign language learning (English and Arabic) officially starts in middle school. Unfortunately, starting to learn two foreign languages at the same time can be a great pressure for all students including dyslexics. This cycle covers grades 6 to 8 for children 11 to 13 years old. In this phase, the abilities as well as the interests of students are recognized, so they become prepared to decide which branch (academic or technical/vocational) they intend to choose in the next cycle.

The scope of the present research is dyslexic students studying in middle schools in Shiraz. Data was collected from their foreign language teachers who are teaching at these schools. The reasons for restricting the scope to middle schools are firstly because most of the learning disabled students are observed in the range of 10 to 15 years according to Sedaghati and his colleagues (2010), and secondly foreign language learning starts with middle school in Iran.

In order to gather data, a closed questionnaire was designed for foreign language teachers (English or Arabic), in the case of which, the possible answers were listed after the questions and the task of the participants was to underline the ones relevant to their case. Answers in this kind of questionnaire can be evaluated more objectively compared to open questionnaires. The questionnaire consisted of four major parts. The first part was related to general observations about dyslexics at schools. The second part was designed to get approximate data about the language skills of dyslexic learners regarding both receptive and productive skills. The aim of this part was to find out in which skills dyslexics showed difficulty. The third part concentrated on language systems and the aim was to identify the difficulties they had relating to vocabulary, syntax and phonology. In the fourth part the teachers were asked about types of exercises commonly found problematic in the case of dyslexics.

According to the data provided by the Department of Education and Training of Fars province, there were 200 middle schools in the city of Shiraz from which 100 were chosen through random sampling method. The questionnaires were sent to the chosen middle schools but unfortunately not all of them were sent back. Altogether 60 schools returned back the questionnaires; this is 30% of middle schools in Shiraz. As a result, 86 questionnaires from foreign language teachers (60 English and 26 Arabic) were received. On the basis of the data supplied by the questionnaires, the most frequently mentioned answers were identified and expressed in percentage. For sake of simplicity, all percentages were rounded up. For the data that could not be analyzed in this way, for example numbers, the method of average calculation was employed.

### **4 Results and Discussion**

Since the disorder displays itself well during the initial years of the primary school, if students are not screened initially and moved to the middle school, chance of identifying them and giving them appropriate services by the governmental section gets weak. Unfortunately statistics about dyslexics does not correspond to reality, due to lack of nationwide screening of dyslexics in Iran (Ghonsooly & Javadian 2010). As a result, no officially registered

dyslexic students were reported by language teachers. So arriving at the proportion of dyslexics in relation to the total number of students was impossible. There were no special facilities allowed for dyslexic individuals, except for giving them extra time in doing tests which was stated only by 21.6% of the teachers, but according to the educational regulations they were not exempted from foreign language learning or even Persian grammar. This data was appalling, because these devices could be a great help for these disabled students. The more shocking fact was that 34.8% of the teachers were not even familiar with the term dyslexia. This high percentage shows the fact; these disorders are ignored greatly by the authorities in the educational setting in Iran. Only 2.3% of the teachers received official training regarding dyslexia while other teachers were familiar with the terms from internet sources, books or their own teaching experience. Almost all the teachers had the same opinion about teacher training: they believed the treatment of dyslexics or remedial teaching in general is not taught to teacher trainees during their training period. And later there are no organizations in which teachers can participate in trainings concerning dyslexia and other language learning disabilities when they start their teaching at schools. According to 90% of the language teachers, dyslexics' attitude towards language learning was mostly resigned. Because of the difficulty these individuals experience with foreign language learning, they lose their enthusiasm.

Beside the above mentioned general observations about dyslexics, there were also useful data provided by the questionnaire concerning the most frequent language learning difficulties of these individuals. Table 1 summaries the areas in which the teachers were questioned about the difficulties of dyslexics related to **receptive** and **productive** skills of language.

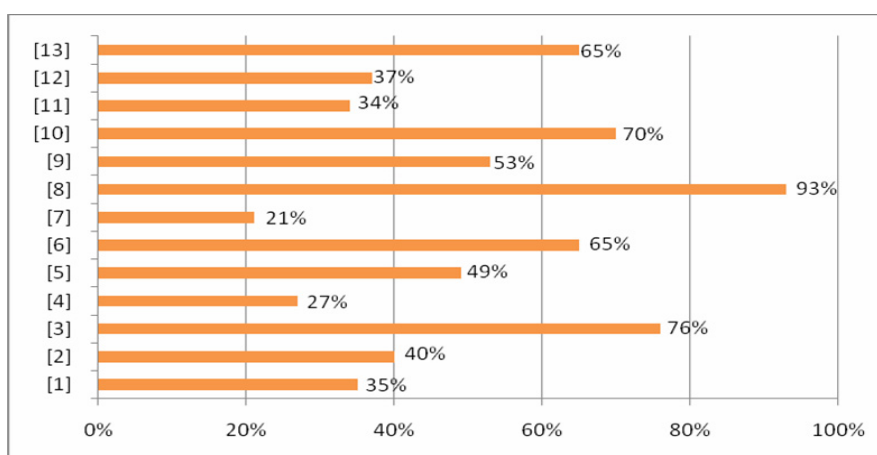
<i>Language skills</i>	<i>Questioned areas related to language skills</i>
<b>Receptive skills (RS):</b> <i>skills related to reading and listening</i>	[1] Adequate familiarity with the alphabet
	[2] Spelling of monosyllabic words
	[3] Spelling of polysyllabic words
	[4] Spelling of non-words
	[5] Reading aloud monosyllabic words
	[6] Reading aloud polysyllabic words
	[7] Reading aloud non-words
	[8] Continuous, articulate reading
	[9] Global or local reading comprehension
	[10] Meaning deduction from context
	[11] Recognition of implicit content
	[12] Recognition of literal meaning
	[13] Recognition of figurative meaning
<b>Productive skills (PS):</b> <i>skills related to writing and speaking</i>	[1] Lower order writing skills
	[2] Higher order writing skills
	[3] Transactional talk
	[4] Interactional talk

*Table 1: The areas in which the teachers were questioned about the difficulties of dyslexics*

The results show that dyslexic learners have weaknesses in both receptive and productive skills. By receptive skills we mean reading and listening while speaking and writing are

called productive skills. In the case of receptive skill, many dyslexic learners struggle with both reading and listening comprehension. Inadequate knowledge of the alphabet can be the initial problem regarding reading followed by problems in spelling, especially in the case of unfamiliar polysyllabic words. There is an obvious contrast between Persian and English language regarding vowels. There are three long vowels (i, u, â) in Persian while its short vowels are not usually represented. In contrast, English orthography has at least twenty basic vowel spellings. In other words, vowels in English orthography are part of the alphabet and are evident as letters; however, in Persian orthography the short vowelization is not part of the alphabet, and is not normally presented in the texts. This can be the source of the problem that Persian dyslexics experience in spelling English words. However, this problem can also be attributed to the difference between the writing system of Persian and English. As for listening comprehension, their poor short term memory and misunderstanding of things are the major sources of problems. They cannot tell where words start or stop, or they can get new words confused with words in their first language when asked to pronounce them. Recognition of the implicit content of texts and the figurative meaning of words are also very hard for them as these learners tend to be literal in thinking. The results obtained in this part of the study were also in line with a research carried out by Liska (2006) on dyslexia and foreign language learning.

In most cases, reading aloud continuously is difficult and challenging for them compared to silent reading. Even if they succeed in reading at a reasonable speed, in most cases they do not understand what they are reading about. The results are in line with Sparks, Ganschow & Pohlman (1989) 'Central Deficit Hypothesis', which states that individuals who have reading problem in one language will also show similar difficulties in their second language, without regard to the language used (cited in Downey, Snyder & Hill 2000). Figure 1 demonstrates a summary of the difficulties reported by the teachers relating to receptive skills in language system.



*Figure 1: Difficulties observed relating to receptive skills*

In the case of **productive skills**, it is seen that both higher and lower order writing skills and both transactional and interactional speaking can be very difficult for dyslexics. According to the language teachers, in the case of writing, essay writing was considered more difficult for dyslexic students compared to (i) knowledge of letters and numbers, (ii) writing techniques, (iii) copying and dictation. For speaking, transactional talk was considered to be more

problematic than interactional. The obtained results are consistent with results found in a study done by Sarkadi (2005). He believes the major difficulty lies within the acquisition of higher-order writing skills like composition, essay, story or letter writing. And these skills can be even more difficult for dyslexic learners compared to lower-order writing skills, such as knowledge of letters, numbers, writing techniques, copying and dictation. Figure 2 demonstrates a summary of the difficulties reported by the teachers relating to productive skills in language system.

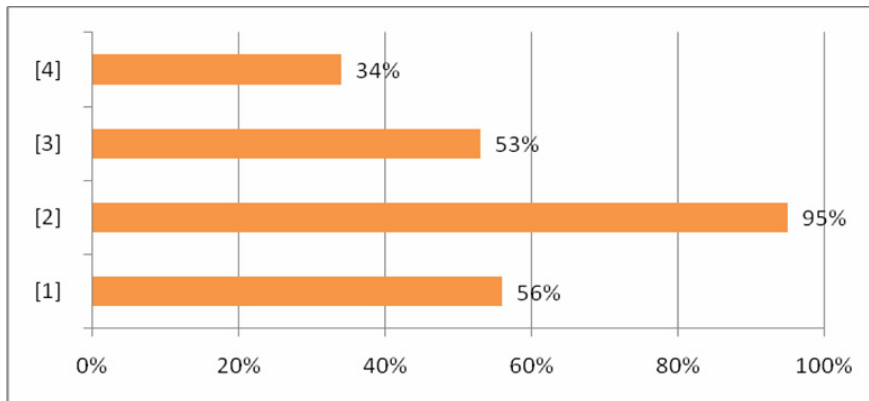


Figure 2: Difficulties observed relating to productive skills

In the language system, vocabulary, syntax and phonology were the major areas in which teachers were questioned (For a summary see Table 2).

<b>Language systems</b>	<b>Questioned areas related to difficulties in language systems</b>
<b>Vocabulary</b>	[1] Understanding visual and auditory form of words
	[2] Correct pronunciation
	[3] Correct spelling
	[4] Ability to recall words
	[5] Grammatically correct use of words
	[6] Knowing word collocations
	[7] Knowing word connotations
	[8] Sociolinguistically correct way of using words
	[9] Knowing lexical relation of words
<b>Syntax</b>	[10] Knowing the form of the grammatical structure
	[11] Knowing the meaning of the grammatical structure
	[12] Knowing the function of the grammatical structure
<b>Phonology</b>	[13] Phonology segmentation
	[14] Intonation
	[15] Word stress
	[16] Rhythm

Table 2: Questioned areas related to difficulties in language systems

According to the teachers, the most frequent problems relating to vocabulary occurred in the following areas, (i) spelling words in a correct way, and (ii) using words in a grammatically

correct way. However, teachers believed these students could use the words in an appropriate sociolinguistic context. Relating to syntax, knowing the function of grammatical structures was considered to be the hardest for dyslexics. As regards to pronunciation, all teachers agreed that intonation and word/sentence stress were the most challenging parts for dyslexics and this could be due to the existing differences between Persian and English stress patterns (For a summary see Figure 3).

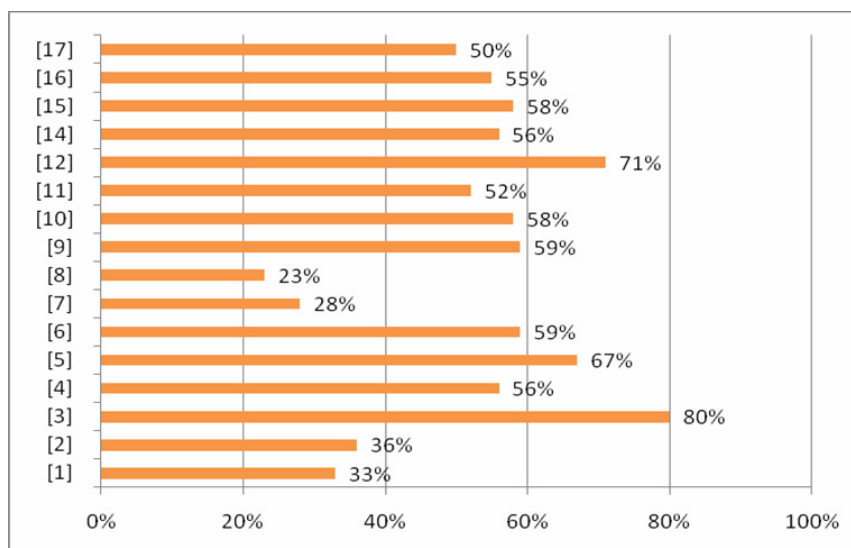


Figure 3: Difficulties in the area of vocabulary, syntax and phonology regarding dyslexics

For types of exercises, written and oral exercises were the major areas in which teachers were questioned (For a summary see Table 3)

Types of exercise	Various tasks in each type of exercise
Written exercises	[1] Translation
	[2] To complete sentences and texts
	[3] To search for errors
	[4] Multiple choice tests
	[5] True or false statements
	[6] Answering questions related to the texts
	[7] Fill in a table
	[8] Preparation of diagrams
	[9] Categorization
	[10] Sentence transformation
	[11] Questions to elaborate on
	[12] Guided composition
Oral exercises	[14] Picture description
	[15] Text to learn by heart
	[16] Role-play
	[17] Debate

Table 3: Types of exercises questioned



The most difficult type of exercise for these students was considered written exercises. Among written exercises, search for errors and question elaborations were considered the most difficult ones. In oral exercises, debate was found to be the most and picture description the least challenging tasks (For a summary see Figure 4).

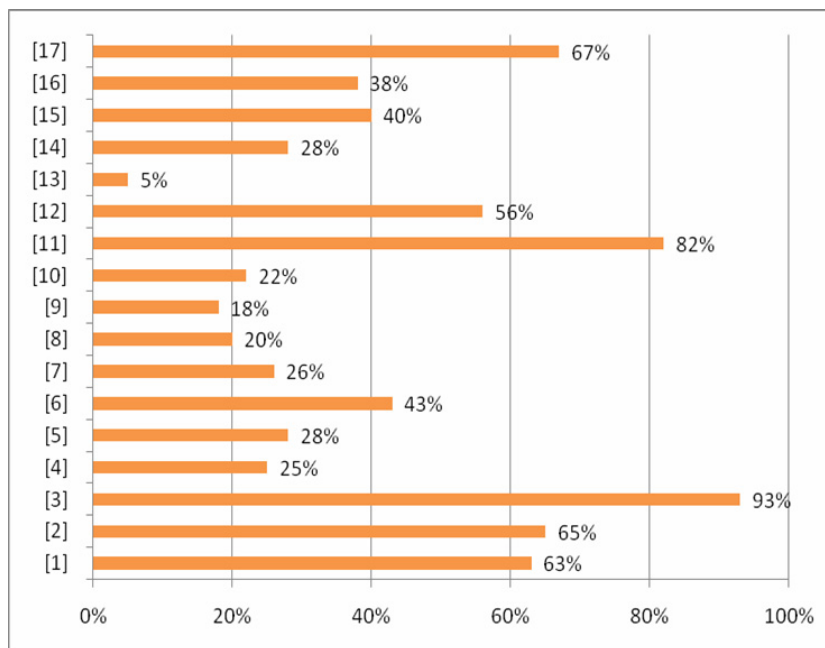


Figure 4: Difficult types of exercises for dyslexics

The most frequently mentioned point by the teachers was that they did not have enough time during the class hours to deal with dyslexic students because of the high number of students in each classroom. The ideal situation would be to treat each dyslexic learner as an individual case and develop special remedial programs for them but unfortunately this cannot be done in Iran's traditional school framework due to lack of time and sufficient financial support from the government.

## Conclusion

Language learning is unlikely to be easy for any dyslexic student but appropriate teaching will undoubtedly make an enormous difference. Although we cannot generalize from one dyslexic student to another, due to the uniqueness each dyslexic possesses in his or her strengths and weaknesses, clearly structured teaching generally recommended for teaching native language skills may make language learning much more comprehensible to the dyslexic students. While all dyslexic learners are at risk of encountering difficulties in the foreign language classroom, close monitoring will ensure that these difficulties are minimized.

In this study, by the help of the questionnaires designed, it was observed that Iranian dyslexic students encounter many difficulties in learning English and Arabic as foreign languages and they are significantly weak in reading, spelling, and phonological processing

compared to normal students. As for the practical implication suggested by the questionnaires, dyslexic students are generally ignored in normal educational settings and teachers generally relate the slow and inaccurate performance of these learners to their laziness or carelessness. There is a need to explain to foreign language teachers the effect of dyslexia in the native language on the students' foreign language performance. In so doing, we should consider the importance of developing remedial materials for the dyslexic students as well as employing relevant teaching strategies and developing assessment tools which enhance English learning. There is still a lot of research to be done in this matter if dyslexic students are to reach their potential in all languages. Teachers should recognize the need for special training and considerable collaboration in order to reach a fuller understanding of the most appropriate methodologies for dyslexic students. The conclusions made in this study need to be qualified according to the limitations of the present study. Further research into foreign language learning will be required if we are to be assured of the most appropriate and best solutions.

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