

الأبعاد النفسية اللغوية لعسر القراءة: دراسة تجريبية لأداء متعلمين اللغة الإنجليزية العراقيين كلغة أجنبية

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الملخص

عسر القراءة "الدسلكسيا" هو صعوبة تعلم لغوية ونمائية وعصبية تؤثر على قدرة الشخص على القراءة بدقة وطلاقة، كما تؤثر على تطور مهارات الإملاء. والأشخاص المصابون بعسر القراءة يتمتعون بذكاء طبيعي وبصر سليم. تهدف هذه الدراسة إلى النظر عن كثب في الأداء اللغوي للمتعلمين العراقيين المصابين بعسر القراءة. وتحاول الإجابة على سؤالين أساسيين: هل يؤثر عسر القراءة على مهاراتهم اللغوية؟ وإذا كانت الإجابة نعم، فكيف تظهر هذه التأثيرات؟ كما يحلل البحث عينات صوتية لعدد من المتعلمين العراقيين المصابين بعسر القراءة لتحديد الاضطرابات اللغوية لديهم. وهدف آخر هو معرفة العوامل النفسية-اللغوية التي يمكن أن تتنبأ بمهارة القراءة والمهارات الأخرى المرتبطة بها. كما أن صعوبات الإملاء تجعل من الصعب عليهم كتابة التعبير والتعبير عن أفكارهم بوضوح. ولتحقيق أهداف هذه الدراسة، تم اختيار عينة مكونة من ثلاثون طالباً من الصف الثالث المتوسط من مدرسة الجواهري المتوسطة للبنين في محافظة ذي قار. وأظهر هؤلاء الطلاب في الصف علامات شائعة عسر القراءة، مثل: سوء الخط، وصعوبة في التعبير الكتابي، وأخطاء إملائية، وبطء في القراءة، وصعوبة في ربط الأصوات بالحروف. كما ارتكب بعضهم أخطاء إملائية شائعة بين متعلمي اللغة الإنجليزية كلغة أجنبية. ويُعد الفارق الواضح بين مستويات المهارات المختلفة أحد العوامل التي تساعد في تشخيص عسر القراءة

الكلمات المفتاحية : علم اللغة النفسي ، عسر القراءة، صعوبات التعلم، فك التشفير الصوتي

A Psycholinguistic Dimensions of Dyslexia: An Empirical study of Iraqi EFL Learners' Performance

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Abstract

The dyslexia definition of a developmental and neurological language-based learning disability that affects people's ability to read accurately and automatically, and to spell accurately. People with dyslexia are of normal intelligence with normal eyesight. This research investigates the learning language performance of the Iraqi learners that suffer from dyslexia seriously. It seeks to answer two fundamental questions: Do persons with dyslexia have language impairments? And, if yes, in what way does it appear? Additionally, there is analysis of speech samples from some of the Iraqi dyslexic learners, to identify some of their language impairments. Another objective is to determine if there are psycholinguistic measures that can help predict reading abilities and other related skills. The students struggle to learn the spelling and therefore find it difficult to write compositions and communicate their ideas fluently. The number of samples in this study was thirty students third grade intermediate from Al-Jawahery intermediate school of Thi-Qar province. The students exhibited common symptoms of dyslexia when in the classroom. These ranged from poor handwriting to problems with writing or spelling, slow reading and linkage of sounds with letters. Some of them also made misspelling of words which are common to EFL learners. Clear gap in skills to identify dyslexia.

Keywords: Psycholinguistics ,Dyslexia , Learning Disabilities , Phonological Decoding

1.1 Introduction to Psycholinguistics

Psycholinguistics has a vital role in influencing human development. This field combines two important disciplines: linguistics, which studies language structure, and psychology, which studies human behavior and thought. Both Harley and Jagannath (2005) define it as the study of the cognitive processes underlying language use. According to Scovel (2008), there are three main domains of psycholinguistics: language acquisition, language production, and language comprehension. Learning a mother tongue and learning a second language are the two paths to language acquisition. When children are involved in family or real-life situations, they pick up languages with ease. Perception and interpretation are the two fundamental processes that underpin language comprehension (Levelt, 1992). Both visual and audio perception are possible. The ability to interpret spoken words is known as auditory perception. Phonological awareness, or the knowledge that spoken language may be broken down into smaller pieces like words, syllables, and individual sounds, is one crucial component associated with this.

The ability to distinguish between words, letters, and forms is known as visual perception. Teaching is crucial in enhancing perception because it is a skill we acquire rather than something we are born with. Language-related learning issues can arise when students experience difficulty with either hearing-based or sight-based perception. This is where psycholinguistics comes in; it applies knowledge from both psychology and linguistics to address these problems as well as those related to language training, speech impairments, and language-related social obstacles (Mulyono, 2003).

1.2 Learning Disabilities

Learning disabilities represent one of the most significant challenges in modern education ,affecting a substantial portion of learners across all academic levels . They are defined as neurologically-based processing disorders that interfere with an individual's ability to acquire, retain, or apply specific skills such as listening, speaking, reading, writing, reasoning, or mathematical abilities, despite having average or above-average intelligence and adequate educational opportunities [American Psychiatric Association, 2013. One may have good writing, while the other has a significant writing problem, but has a good speaking. It doesn't mean that he is a fool. Every student must have weaknesses and strengthens and it cannot be generalized from one to other(Mulyono ,2003).The learning achievement is affected by the internal factor and external factor. External factors include wrong learning strategy, teaching process management that does not evoke the student learning motivation, and improper reinforcement. The external factors can be the main cause of the learning problem. While the internal factor, there is a possibility of neurological dysfunction. It becomes the main cause of learning disability. (Mulyono,2003). Learning disabilities refer to the abnormal development of reading and written skills, and logical and mathematical thinking, and may be associated with oral language impairment(Schirmer,2004) 2004).Student with learning disabilities are a heterogeneous group. They often struggle with various areas of academic performance. It includes the following areas: reading, mathematics, and written expression.

2.1 Definition of Dyslexia

Dyslexia is classified as a distinct learning difficulty rooted in brain function. Individuals with this condition often face challenges when trying to identify words precisely and read them smoothly. They also tend to struggle with spelling and breaking down words into sounds. The root of these problems lies in weaknesses related to how language sounds are processed and how meaning is understood. It is also necessary to define what we mean by a "word." A word functions as the most basic unit of language that carries meaning in the human mind. As a result, a learner's vocabulary is closely linked to their awareness of sound patterns (Vihman & Croft, 2007). In language education, dyslexia has been described in several ways. According to Crombie (2002), people with dyslexia are those who encounter literacy barriers and therefore need particular support to reveal their actual potential. Reid (2005, p. 9) offers another definition:

dyslexia may be caused by a mixture of phonological, visual and auditory processing deficits. Word retrieval and speed of processing difficulties may also present. Despite the fact that the dyslexia individual may exhibit difficulties in the acquisition of reading, writing and spelling, they can be taught strategies and alternative learning methods to overcome most of these and other difficulties. Every dyslexic person is different and should be treated as an individual. Many shows talents activity sought by employers, and the same factors that cause literacy difficulties may also be responsible for highlighting positive attributes such as problem-solving which can tap resources which lead to more originality and creativity" (Reid,2005 :9).

Dyslexia can negatively affect academic achievement, lead to poor self-image, and reduce a student's drive to learn. However, it should not be confused with low intelligence or lack of effort. Dyslexia can appear in individuals across all cognitive levels. A common feature is an uneven pattern of abilities, and the specific traits can differ in intensity from one learner to the next. While experts agree that the origins of dyslexia are consistent globally, the main area of difficulty may shift depending on how regular or irregular a language's writing system is (Harris & Hatano, 1999; Ziegler & Goswami, 2003). Learners with dyslexia commonly report problems such as:delayed speech development ,trouble organizing ideas in both speech and writing, difficulty learning letter-sound relationships, problems recalling basic number facts, frequent spelling errors, slow reading, and challenges when studying a second language (Mlamkjaer, 1995).

2.2Types of Dyslexia

Traditionally, Field (2004) and Caplan (1987) have identified two types of dyslexia; Peripheral dyslexia, where the part of the system that analyses what we see is malfunctioning,and Central dyslexia, where there is a problem with how the brain attempts to

process the information it receives. Peripheral Dyslexia includes the following subtypes:

a. Attentional Dyslexia

In this type, the reader struggles to concentrate because nearby words or even letters cause interference. For example, seeing GLOVE next to APAD might lead to reading "glade." It appears that the attention filter is damaged, making it impossible to focus on one visual element at a time.

b. Neglect Dyslexia

Here the individual fails to notice the beginning of words. As a result, a word like GROSS might be read as "cross" because the initial letters are ignored.

c. Letter-by-Letter Reading

With this subtype, words are sounded out one letter at a time using their alphabet names rather than their sounds. For instance, BED would be read as "Bee-Ee-Dee"

While Central Dyslexia includes the following subtypes:

a. Surface Dyslexia

Students with this form can read regularly spelled words correctly but apply regular rules to irregular words. The theory is that the whole-word reading pathway is damaged, while the letter-by-letter pathway remains functional. This leads to errors such as reading "castle" as "cast-le."

b. Phonological Dyslexia

Individuals can pronounce both regular and irregular words they already know. However, they cannot decode made-up words or non-words. This indicates that the whole-word route is working, but the sound-based route is impaired. This subtype affects about 75% of people with dyslexia. According to Field (2004), phonological dyslexics also struggle with segmenting and combining individual speech sounds, or phonemes.

c. Deep Dyslexia

In deep dyslexia, both word form and meaning processing are disrupted. Similar to phonological dyslexics, these readers cannot pronounce non-words. In addition, they produce meaning-related mistakes where the spoken word is not the same as the target but is related in meaning, such as reading "APE" as "monkey" or "ARTIST" as "picture." They also confuse function words like reading "HIS" as "in," and mix up endings like reading "BUILDER" as "building." Readers with this condition perform much better with concrete nouns than with abstract ones. Field (2004) suggests this disorder can offer important insights into how information is organized in the mental dictionary .

d. Non-Semantic Reading

In this case, meaning processing is impaired while form processing remains intact. Students are able to read words out loud but have trouble understanding what those words mean (Field, 2004).

e. Rapid Naming Deficit

Also known as Rapid Automatized Naming (RAN), this involves difficulty in quickly naming familiar items such as letters, numbers, or colors when seen. Naming a series of items in sequence takes significantly longer, which may be linked to slower processing speed (Field, 2004).

2.3 Why Does Dyslexia Happen?

The exact cause of dyslexia is still unknown. Several clues, but not a whole lot. First, it is very inherited. Sometimes dyslexia runs in families. When only one parent is dyslexic, there is a 30% to 50% probability that their child will be dyslexic, as well. Some genetic disorders, such as Down syndrome, can increase its risk. Secondly, it is certainly about the brain. A person with dyslexia is a neurodivergent — his/her brain is different in shape or function than others. These different brain structure, function and even chemistry are evident in brain scans of people with dyslexia. If the brain activity is disrupted, dyslexia can develop. Events such as infections or contact with toxins during pregnancy can interfere with healthy fetal development, and increase the likelihood of later development of dyslexia. To summarize: So dyslexia is due to the differences in parts of the brain responsible for reading. It has a familial tendency towards running, so researchers believe there are specific genes that play a role; genes that impact language and written words. A hypothesis is that some nerve cells in the developing brain when the genes are suppressed, fail to reach the appropriate location. Evidence for this comes from post-mortem studies of dyslexic brains (Cleveland Clinic, n.d).

The next figure illustrates the major issues and concerns with dyslexia that were found in this study. The model identifies four key areas of challenge: Phonological Processing, Reading/Spelling Skills, Rapid Naming and the Association of Letters/Sounds, and Speech Production. Describing these areas in the context of each other makes it easier to understand how weaknesses in phonology affect other language and literacy skills of students with dyslexia.

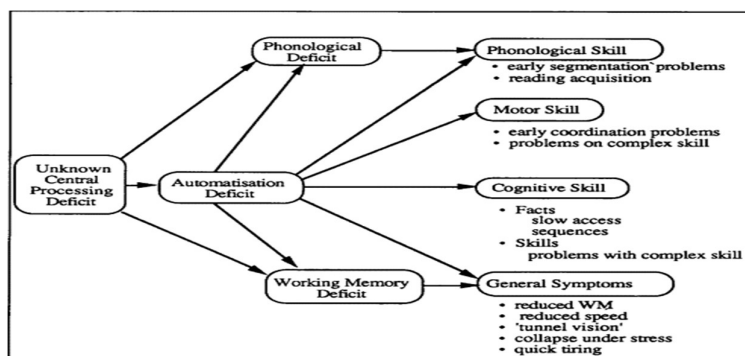


Figure: Core Deficit in Developmental Dyslexia

2.4 Characteristics of Dyslexia

Peer (2003) identifies that common signs of dyslexia include not knowing a word well or being unable to read it off quickly and accurately, misspelling words and word attack problems. The problem is, typically related to a problem in phonological processing and that's often too confusing to make sense because that doesn't align with their other strengths or with the help they receive at school. Dyslexia is typically associated with behavior such as reading and spelling difficulties. Yes, these are the most obvious symptoms. However, a lot of students experience literacy challenges and are not dyslexic. But not reading is not the only challenge. They can impact speech, language, movement and visual skills as well. At the heart of dyslexia are problems with spoken and written language: the foundation skills used when learning a foreign language (Gerber, 1993; Lerner, 1997). In school, the biggest hurdles are usually: hearing and working with sounds, figuring out new words, reading with good speed and expression, and spelling (Castles et al., 2018). It can also come with difficulties in spoken language (Snowling et al., 2020). At its heart, dyslexia involves trouble picking apart speech sounds, holding sound patterns in short-term memory, and reading fluently (National Association of Special Education Teachers, 2018). Research confirms that despite having strong intelligence, people with dyslexia often face real challenges with reading, writing, and spelling (Sayeski, 2019).

2.5 Working Memory and Information Storage

It is helpful to hold onto parts of a text in mind while processing new information from it and while drawing on prior knowledge about the topic. This is generally considered to be the role of working memory. It functions as a short-term store — for example, verbal information may be held in a phonological loop within working memory — while simultaneously combining that information with other inputs. This integration is thought to be managed by the executive component of working memory. As a result, working memory is believed to contribute to language acquisition by connecting new vocabulary with previously learned words and meanings, which is central to vocabulary growth. It is also thought to support inference-making during reading. This includes linking different sections of a text to build meaning, figuring out the meaning of an unfamiliar word from its context, and using background knowledge stored in long-term memory to go beyond what is explicitly stated in the text. Some aspects of working memory are believed to be relatively fixed. Specifically, there are limits to both how much information can be held at once and how long it can be retained. However, people can learn strategies to enhance how working memory handles information. For instance, chunking makes recall easier. Remembering the sequence “2, 7, 5, 9, 1, 8, 3, 6” is challenging, but grouping it as “27, 59, 18, 36” is much simpler. Likewise, posing questions about a text during reading can promote inference and integration. Using reference materials effectively and avoiding distractions can also help compensate for weaknesses in vocabulary or language stored in long-term memory. These techniques require practice to become effective. Because of this, many working memory features help explain the effects of limited reading practice and weaknesses in certain language processing and storage skills. Therefore, in the shaded "consequences" column, we have noted potential impacts across several areas. These include emotional factors, self-concept such as self-esteem and self-efficacy, and behavioral traits that are shaped by both

personality and experience. As noted previously, learning difficulties may affect individuals negatively, while others may dismiss them or even use them as motivation to work harder. The column also covers outcomes related to societal success, such as achieving strong educational qualifications. Both the severity of dyslexia at the biological and cognitive levels, and the level of support received environmentally and experientially, influence educational and future employment outcomes. We have also included a section showing that the middle and left columns can affect the development of language, memory, and therefore thinking skills. These in turn can influence success. Importantly, the effects are not entirely negative. Phonological difficulties with storing information in working memory do create obstacles. However, learning strategies to manage these obstacles can build self-awareness and a toolkit of skills that are useful in many settings, including the workplace. If you are someone who can find alternative ways around a problem, you become a more valuable team member in today's work environment. Ultimately, self-understanding and the use of what we call metacognitive strategies are key to ensuring that the outcomes in the right-hand shaded column are more positive than .(negative (Leather & Everatt, 2024

2.6 Linguistic Factors: Phonological Decoding as a Core Indicator

The linguistic components and in particular the aspects of phonology pointed out in this study, are most likely the primary cause of literacy difficulties in relation to dyslexia. Thus, it is critical to study these skills in the early stages, namely the skills of recognising and manipulating sounds in spoken language. It is important to remember reading and writing are interrelated, as mentioned above. This explains why most assessments do not just attend to language skills that can lead to literacy issues. They also reflect upon potential areas of negative learning experiences. For instance if someone has literacy problems they will not be reading to practice their skills as much. This, in turn, can result in inadequate exposure to selected types of vocabulary, and thus compromise reading comprehension (Rack et al., 1992).

Phonological skills are considered valuable for reading development because they create the connection between spoken language and written text. The ability to detect sounds in words supports linking those sounds to their written letters. In reading, this process is often called decoding. It means converting a written word into its spoken form by matching each letter or letter group to its sound or sounds. This is why many reading assessments also test non-word or pseudo-word reading. These items look like real words because they can be sounded out through decoding — in other words, by applying grapheme-phoneme rules to convert letters or letter clusters into sounds. However, they are not actual words and carry no meaning, so it is unlikely the reader has encountered them before. For example, the made-up word 'sploob' can be pronounced, but it has no definition. It is not part of the English language. It is also unlikely that you have seen these letters in this exact sequence before, which means you cannot simply recall it from memory. Therefore, the only way to say it is by connecting letters or letter groups to their sounds — by decoding the invented word. Because of this, such tasks help measure how effectively a person uses decoding when they come across new words — and for early readers, most words are new. In line with the idea that phonological processing supports decoding, and that individuals with dyslexia struggle in this area, people with dyslexia usually score lower on

these tasks compared to those without dyslexia (Rack et al., 1992). This weakness related to dyslexia appears in both adults and children, making it a useful tool for assessment throughout a person's life.

Furthermore, even when adults with dyslexia achieve accurate decoding, they may still decode more slowly, which can also be a sign of dyslexia. For this reason, timed naming of real words or non-words can serve as an additional useful tool in assessments (Fawcett & Nicolson, 1994; Hulme & Snowling, 1997). In the same way, many individuals with dyslexia perform less well than those without dyslexia on tasks that require quickly naming familiar objects, numbers, or colors. The issue is not about recalling the name, as these names are typically very well known. Instead, the difficulty appears to be in saying the names quickly and accurately. This may reflect challenges with making phonological retrieval more efficient. However, it is still debated whether these slow naming difficulties continue into adulthood for all people with dyslexia. Whether these weaknesses remain may depend as much on learning experiences as on the underlying cause of dyslexia. Therefore, rapid naming tasks should be viewed as one part of a broader set of phonological assessments, not as the sole measure of phonological weakness. Another phonological assessment commonly used in diagnosing dyslexia is memory span. In this task, a person is asked to repeat a sequence of items, usually digits, in the same order. The sequences get progressively longer — for example, starting with repeating two digits, which is fairly easy, and going up to repeating nine digits, which is much more difficult. The items are typically presented orally and repeated orally. As a result, this measure tests the ability to identify, hold, and reproduce verbal or phonological information. The longest sequence that a person can repeat correctly is taken to indicate their memory span and is linked to working memory capacity. Both have been suggested to be connected to difficulties seen in dyslexia (McLoughlin et al., 2002; Thomson, 2009). Although research findings are mixed regarding differences between individuals with and without dyslexia on memory span tests (Everatt, 1999), this area is still likely to be included in assessments. It can help guide support recommendations and provide evidence of the different phonological weaknesses a person may have. It may also offer useful information that relates to working memory assessment.

2.7 The Model of Analysis

The Phonological Deficit Model is one of the most widely accepted explanations for developmental dyslexia. This model proposes that the primary difficulty experienced by individuals with dyslexia lies in phonological processing rather than in general intelligence or visual perception. According to Vellutino et al. (2004), students with developmental dyslexia demonstrate significant weaknesses in phonological memory. This also relates to difficulties to grasp and remember sequences of sounds and to repeat unfamiliar words. This notion has been confirmed by early research by Bradley and Bryant (1983), who demonstrated that assessment of performance on nonword repetition is a very reliable predictor of later reading problems. Wolf and Bowers (1999) added memory deficits and rapid automatized naming as a second core deficit. They propose a Double-Deficit Hypothesis, which posits that some suffer from both phonological and naming speed deficits. This mix results in reading fluency and word retrieval

issues. Snowling (2000) further developed the model and added the addition of the role of vocabulary in speech processing. Although she stated that a wider vocabulary facilitates the comprehension of text, she said a wide vocabulary might also lead to an increase in the number of errors produced in a phonologically related manner. On one hand, this is because words that share significant acoustic features tend to be activated simultaneously when accessing their mental representations of the words, and on the other hand, because words with a semantic resemblance activated simultaneously when accessing their mental representation of the words will make it more difficult to select the right word. In conclusion, the Phonological Deficit Model gives way to understanding the results obtained from the present study. It outlines the contribution from weakness in phonological memory, difficulty with rapid naming, and inability to sound out letters in students with developmental dyslexia (DD) to their reading and spelling struggles.

3.Data Description and Analysis

3.1 Sample of the Study

To achieve the objectives of this study, a questionnaire was designed and given to thirty students from the third intermediate grade as the main data collection tool. The questionnaire is made up of two sections, with 10 questions in each section. The first section focuses on the spelling and reading errors made by students. Examples include incorrect syllable division, mispronunciation of sounds, confusion between letters such as d and b, adding extra vowels, doubling letters incorrectly, reversing or mixing up letter order, and placing word boundaries in the wrong place. The second section contains ten statements where students were asked to indicate whether they agree or disagree, as presented in this study.

3.2 Description of the Test

A test was created with two parts to achieve the study's objectives. There were ten questions in each part. Part one was on the kind of errors that made while word breaking, such as breaking into incorrect syllables, mixing up sounds, saying "b/d" correctly, adding extra vowels, doubling letters by chance, reversing or mixing letters and therefore placing word boundaries incorrectly. Part 2 was ten statements to which the students chose agree or disagree.

3.3 Data Analysis and Discussion

3.3.1 Discussion and analysis of the first part of the Test

3.3.1.1 Reading Comprehension Test

Students with dyslexia often experience challenges with reading comprehension due to problems with the accuracy and fluency of word-level skills (Shankweiler et al., 1999). In some cases, comprehension difficulties occur even when decoding skills are adequate. This situation rarely appears in isolation. It is more commonly linked to oral language disorders that involve problems with understanding spoken language (Stothard & Hulme, 1996), or to difficulties with

processing at the discourse level. In addition, students with dyslexia may struggle with reading comprehension because of weaknesses in specific cognitive abilities, such as working memory, or because they have trouble maintaining focus on what they are reading. To evaluate these cognitive skills, tests of vocabulary, grammar, and listening comprehension can be used, especially when a student shows good word recognition but weak reading performance. If a student's word recognition is strong, an extensive assessment of phonological processing may not be necessary. This study draws on two main theoretical frameworks: the Phonological Deficit Hypothesis (Ramus, 2003) and the Double-Deficit Hypothesis (Wolf & Bowers, 1999)

3.3.1.2 Spelling and Written Expression Tests

Spelling and writing difficulties are frequently seen in students with dyslexia. Students who struggle to recognize words are also the most likely to have spelling problems. This can make any task involving written language challenging. Occasional spelling errors can occur even when there are no word recognition deficits. However, they are most common among students who have phonological processing difficulties and may also experience some word recognition challenges. Younger students might perform poorly on spelling tests because of broader graphomotor difficulties. Because of this, evaluating visuomotor skills can be important when assessing basic writing ability. Students with more general oral language disorders often find it hard to turn their thoughts into language, which makes written expression tasks difficult. In addition, some students — particularly those with isolated dyscalculia and ADHD — often show signs of dysgraphia due to significant problems with motor planning and execution. A qualitative review of spelling errors can also be helpful. Several studies have focused specifically on handwriting and written output. These studies have examined both the mechanics of handwriting and broader aspects of written expression. A written test was used in this study to measure students' spelling and written expression skills. However, the spelling difficulties found in the selected sample are presented in the table below:

Table (1) Spelling and Written Expression Tests

No.	Spelling Difficulties	Informants Answer	The Target Word
1.	Wrong Syllabication	Rember , mories	Remember,memories
2.	Misrepresentation of the sound	Led , fad ,site ,pad	Let , fat , side ,pat
3.	d, b confusion	Bady , dabby Cabby , dee , decide	Baby , daddy Caddy , bee, beside
4.	Intrusive vowels	Tewenty dery ,sinow ,feruit	Twenty Dry ,snow ,fruit

5.	Wrong doubling of letter	eeg , semm , whell ,fott	egg ,seem , wheel ,foot
6.	letter reversal/disordering Wrong Word Boundaries	lentgh , tow , litgh ,hihg	length , two , light ,high
8.	Leave off suffixes, omit parts of words, or skip smaller words	I have many book. spakles	I have many books. sparkles
9.	Difficulty sounding out unknown words	cost , and speech	accost, and beseech
10.	inversions (p/b) in letters or numbers	put	but

Regarding dyslexia-related difficulties, the table above indicates that students who confused letters and words, perceived things differently, and had spelling problems also experienced challenges in learning to read. The term "dyslexia" is used to describe these difficulties. It is a common misconception that students with dyslexia see things backwards. In reality, the main difficulty is remembering the name associated with a particular letter or word. Today, dyslexia is defined as a significant difficulty in learning to read words that continues even when the reader is given additional reading support. The students in this study showed problems in both spelling and written expression. These included errors such as incorrect syllable division, mispronunciation of sounds, confusion between d and b, the addition of extra vowels, incorrect letter doubling, letter reversal or disordering, and incorrect word boundaries, as shown in the table above. Students also continued to struggle with pronouncing unfamiliar words, especially words with multiple syllables. Their written expression was weak as well, particularly in areas such as punctuation, capitalization, and organization. The content and ideas in their writing were also underdeveloped. In addition, learning spelling rules and patterns was difficult for them. Phonological processing is considered a cognitive process that cannot be observed directly. We infer that the brain carries out these processes based on observable behaviors during language tasks that require phonological information. For instance, when asked for the first sound in the word 'book', most people identify the sound represented by 'b'. Likewise, when asked what remains after removing the 'b' sound from 'bad', most respond with something like 'add

3.3.3.3 Reading Rapidity Test

Students with dyslexia often experience difficulties with reading speed, as word recognition can be slow and laborious. The sample in this study also showed problems at the text level, which reflects more general difficulties in processing information quickly. Although this group did not have issues with word recognition, they did struggle with reading fluency and

comprehension. Across these groups, reading speed was found to be related to reading comprehension scores. At present, there is insufficient evidence to classify slow reading speed as a separate type of reading disability. However, assessing reading speed remains very important. Many students who have mastered word recognition still demonstrate poor reading comprehension because they read at a slow pace. That said, slow word reading does not always lead to poor comprehension. This issue often needs to be included in the student's learning plan. Therefore, in addition to evaluating reading speed, assessing rapid naming as part of cognitive functioning is especially important.

3.3.1.4 Discussion and analysis of the Second part of the Data

The table below includes ten statements related to a specific topic or set of topics. Students were asked to respond to each statement by choosing either "agree" or "disagree." The table presents the frequency count and the percentage for each response option for every question.

Table (2) Frequency and percentages of the Students' Answers

No. of Items	No. of Frequency of the agree responses	Percentage	No. of Frequency of the disagree responses	Percentage
1.	١٠	%٦٧	٢٠	%٣٣
2.	٢٥	%١٧	5	%٨٣
3.	14	%47	16	%53
4.	7	%23	23	%77
5.	27	%90	3	%10
6.	20	%67	10	%33
7.	22	%73	8	%27
8.	25	%83	5	%17
9.	27	%90	3	%10
10.	28	%93	2	7%

The results of this study support the initial hypothesis, which stated that learners may experience difficulties in reading, writing, and speaking. In the discussion section, the researcher focused only on the items that showed the highest frequency in the analysis. For item No. 2, "Do you skip words when reading?", 83% of students disagreed. Psychologically, learners tend to

omit words whose meanings they do not know. In addition, students often lose track of their place in the text, which is why they use their fingers or a marker to guide them. This is reflected in item No. 4, "Do you use a marker or your finger to keep your place?", which had a high agreement rate of 77%. Regarding item No. 3, "Do you tend to misread words?", students reported difficulty with misreading. This may be due to limited knowledge of the English orthographic system, and the fact that there is not always a direct one-to-one relationship between letters and sounds. Such errors could also result from weak student performance or from psychological factors. These may include negative attitudes toward learning, or negative experiences with teachers who use ineffective methods such as physical punishment or hurtful language, which can distance students from learning.

4. Conclusion

The developmental dyslexic has characteristic language impairments that relate to the language sense and not meaning. For instance, developmental dyslexics' weaknesses are in phonological memory. They have difficulty remembering strings of words and have poor scores on standardized tests of phonological memory like repeating non-words such as balop and thickness. In addition, a few students had problems with speaking due to trouble recalling words. Others had a difficult time making sounds on the letters or morphemes and often wrote letters out of order—an attitude typical of dyslexics. Producing unfamiliar word forms requires learners to create new phonological representations. Students who have developmental dyslexia are also slower to recognise familiar words by sounds. For example, when listening to words that are presented slowly, one at a time, through the speakers; they need more acoustic and phonological information to identify familiar words than other children do. Developmental dyslexia is linked to problems in precision of speech production, such as discriminating between vowel sounds, as taken as output. Furthermore, developmental dyslexics have problems with fast naming (word speed naming). Are late to associate letters with their matching sounds. These challenges are particularly noticeable when they are learning to read new words and in their lack of fluency in reading. They tend to read slowly, with pauses, and make mistakes. Weak spelling skills is another characteristic that they show. They may speak words incorrectly or make up words, often claim that they do not understand what they read or that reading is hard. The analysis matches with one of the primary goals of this study, which was to find psycholinguistic factors that are correlated to SRA. The multiple regression analyses revealed that while phonological working memory was correlated with achievement not much could be said about the independent effect of this ability when speech reading was used, and when phonological errors were used, the strongest predictor was vocabulary knowledge. There is a higher chance of correct executions when the vocabulary is larger. But it also increases the likelihood of making phonologically similar errors as lexical access requires the simultaneous activation of words that make up the same phonological neighborhood. In particular, this involves contraction of certain words that have similar first sounds.

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