



Diagnostic Assessment for Children with Reading Difficulties

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Abstract:

This study addresses the topic of diagnostic assessment for children with dyslexia, which is one of the key areas in educational and psychological research. It contributes to understanding the nature of learning difficulties that children face in reading and writing. The study reviews the basic definitions of learning difficulties and dyslexia, distinguishing between the mechanical aspects of reading and its cognitive aspects, and highlights the different levels of reading comprehension, including word recognition and understanding of content.

The study focuses on the importance of early diagnosis to identify children's strengths and weaknesses, and on the use of appropriate measurement tools and tests to provide effective educational intervention aimed at improving reading and writing skills. It also identifies the different groups of children who require early intervention, including those with specific disabilities, biological risk, environmental risk, and developmental delay, and explains how to design educational activities that take these differences into account to ensure that learning is adapted to each child's needs.

The study emphasizes that dyslexia is a major factor in academic failure, and that diagnostic assessment serves as a fundamental tool to support individualized learning, enhance academic achievement, and provide teachers with accurate information about appropriate teaching strategies for each child.

Keywords: *learning difficulties, dyslexia, diagnostic assessment, early intervention, reading and writing.*

Évaluation diagnostique pour les enfants ayant des difficultés de lecture

Résumé :

Cette étude aborde le thème de l'évaluation diagnostique de la dyslexie chez l'enfant, un domaine clé de la recherche en éducation et en psychologie. Elle contribue à la compréhension des difficultés d'apprentissage rencontrées en lecture et en écriture. L'étude passe en revue les définitions fondamentales des difficultés d'apprentissage et de la dyslexie, en distinguant les aspects mécaniques et cognitifs de la lecture, et met en lumière les différents niveaux de compréhension, notamment la reconnaissance des mots et la compréhension du contenu.

L'étude souligne l'importance d'un diagnostic précoce pour identifier les forces et les faiblesses des enfants, ainsi que l'importance d'utiliser des outils et des tests de mesure appropriés pour proposer une intervention pédagogique efficace visant à améliorer leurs compétences en lecture et en écriture. Elle identifie également les différents groupes d'enfants nécessitant une intervention précoce, notamment ceux présentant des handicaps spécifiques, des risques biologiques ou environnementaux, et des retards de développement. Enfin, elle explique comment concevoir des activités pédagogiques qui tiennent compte de ces différences afin d'adapter l'apprentissage aux besoins de chaque enfant. L'étude souligne que la dyslexie est un facteur majeur d'échec scolaire et que



Soumission : 13/04/2025 Acceptation : 09/06/2025 Publication : 25/08/2025

l'évaluation diagnostique constitue un outil fondamental pour soutenir un apprentissage individualisé, améliorer la réussite scolaire et fournir aux enseignants des informations précises sur les stratégies pédagogiques les plus adaptées à chaque enfant.

Mots-clés : *difficultés d'apprentissage, dyslexie, évaluation diagnostique, intervention précoce, lecture et écriture.*

Introduction

Today, the field of learning difficulties occupies an important place in studies of psychology and educational sciences and in their pedagogical applications. Many studies have been conducted in this field, focusing on issues of diagnosis and intervention—especially diagnostic assessment. Among these studies are those addressing problems of reading difficulty. What is reading difficulty? And what is meant by diagnostic assessment? All of this—and more—will be addressed in detail in this study.

Concept of Learning Difficulties:

Learning difficulties refer to a disorder in one or more of the basic mental or psychological processes that include attention, perception, concept formation, memory, and problem-solving. The effects of these disorders appear in the individual's inability to learn reading, writing, and arithmetic, which in turn leads to deficiencies in learning various school subjects, whether in primary school or later stages.

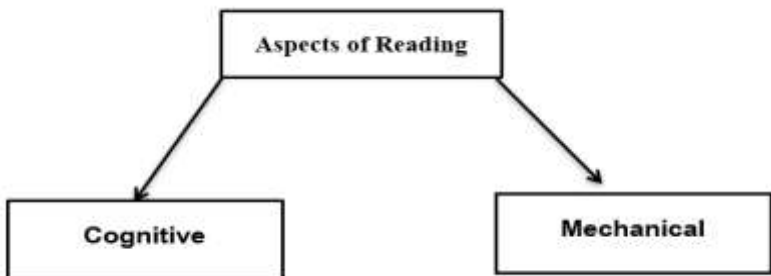
Kirk (1987) stated that learning difficulties stem from a specific disability or a deficiency in one or more processes related to speech, language, perception, behavior, reading, spelling, writing, or mathematical operations. These difficulties may result from a possible brain dysfunction or emotional or behavioral disorder, but they are not due to intellectual disability, sensory deprivation (hearing or vision), cultural factors, or ineffective teaching methods.



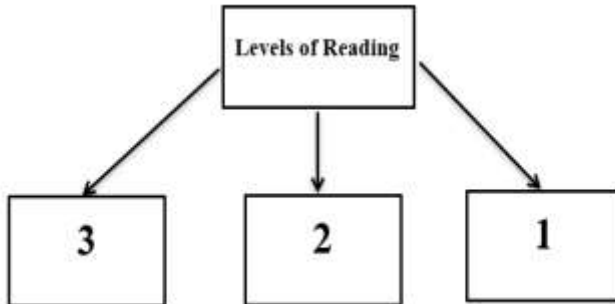
Definition of Reading:

- Reading is defined as the process of decoding written symbols and linking them to their semantic values.
- **Dyslexia:** Dyslexia is a difficulty in the ability to read at an age-appropriate level, outside the context of any intellectual or sensory impairment. It is often accompanied by writing difficulties and results from a disorder in the use of processes necessary for acquiring this skill.
- **Definition by Bourat Hissoni:** Dyslexia is a specific difficulty in recognizing, understanding, and reproducing written symbols. It results from a profound disorder in learning to read between the ages of **5 and 8**, as well as in writing, reading comprehension, and later academic achievement.
- **Mechanical Aspect:** recognizing the shapes and sounds of letters, and the ability to form words and sentences.
- **Cognitive (Mental) Aspect:** understanding the read material.

1. Explanation of the Diagram:



1.1. Free Reading Level



1.2. Educational Reading Level

The frustrating level of reading

Comprehension rate 90%	1
Word comprehension rate 99%	

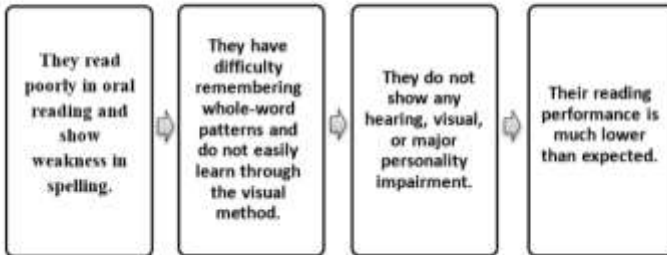
Comprehension rate 75%	2
Word comprehension rate 95%	

Comprehension rate 50%	3
Word comprehension rate 95% or less	



Indicators of Reading Difficulty

Tauson and Marsland (1966)



Terms Related to the Study:

Test:

A test is a set of questions or tasks that the examinee is required to answer—either in written or oral form—and sometimes through other means such as acting, games, and so on. The test should include a representative sample of all possible questions and tasks related to the knowledge and skills being measured. It examines the performance of the examinees and provides a quantitative measurement or numerical value for their mastery of these skills and knowledge.

Measurement:

Measurement is the quantitative estimation of things according to specific standards, based on the principle that “everything exists in a measurable amount” and that every measurement involves a comparison or evaluation.

According to Mehrens (1975), it is “the process that enables the specialist to obtain quantitative information about a certain phenomenon.” (Abu Al-Diyar, 2012, p.170)

Evaluation:

Evaluation is a process through which value is assigned and strengths and weaknesses are identified in the level of study or teaching methods, followed by judgments using various methods and tools. (Youssef Ibrahim, 2002, p.105)

Assessment:

According to Mihes and Limaf (2002), assessment is “the process that allows us to make judgments about value or quantity alike.” Most definitions of assessment emphasize its procedural aspect—issuing a judgment on a phenomenon after measuring it, according to specific norms related to that phenomenon. These definitions also clarify its function in identifying strengths and weaknesses.

For instance, Mehrens (1975) defines assessment as “the process by which aspects of behavior are judged in terms of their closeness to or deviation from the established standards.” (Abu Al-Diyar, p.18)

Diagnosis:

Diagnosis is the description or concise identification of the condition an individual suffers from, and it includes both measurement and evaluation. In the field of disability—whether educational or medical—it is the first step in treatment and rehabilitation. Diagnosis is viewed as a tripartite process involving the child, the examiner, and the assessment tools or methods. (Abu Al-Diyar, p.20)



Soumission : 13/04/2025 Acceptation : 09/06/2025 Publication : 25/08/2025

Diagnosis is the essential process that coordinates therapeutic intervention methods. The earlier the diagnosis is conducted in the child's life, the more effective the intervention's impact will be on the child's behavior. Diagnosis involves determining the nature of a task or educational problem through standardized or non-standardized tools administered by the diagnostician. (Ibid., p.20)

Educational diagnosis relies on observing specific aspects, abilities, and skills in the child. For example, a language and speech specialist identifies the child's linguistic and verbal skills, communication ability, and the type of communication used. Similarly, tools are used to identify and diagnose the child's motor abilities. (Ibid., p.21)

2. Diagnostic assessment

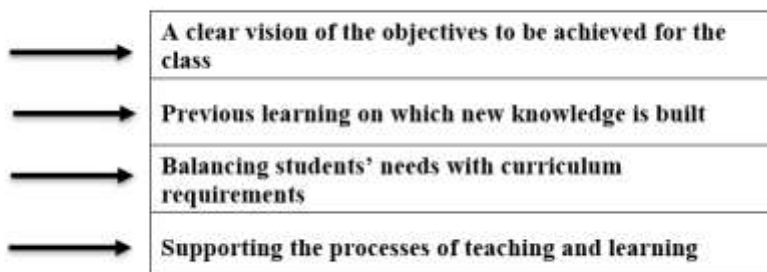
2.1. Definition of Diagnostic Assessment:

Diagnostic assessment is a method of learning and teaching conducted at the beginning of the instructional process. It requires the systematic collection of information and data about students' abilities, knowledge, and prior experiences in order to identify their strengths and weaknesses, and to design classroom activities that meet their educational needs.

It is a teaching and learning approach that involves systematically gathering information about students' achievement to determine their areas of strength and weakness, and to build classroom activities that respond to their learning requirements.

Diagnostic assessment is **not** merely a testing method; rather, it is a **comprehensive educational approach**.

2.2. Principles of Diagnostic Assessment:



2.3. Importance of Diagnostic Assessment:

This type of assessment makes it possible to identify the learner's prior knowledge and skills. The process benefits:

- 1) **The teacher**, in order to determine whether the learner possesses the necessary abilities to begin and follow a particular learning program.
- 2) **The teacher**, to detect learning gaps in preparation for addressing or considering them during the teaching and learning process.
- 3) **The learner**, by increasing their awareness of their strengths and weaknesses, encouraging them to take possible remedial actions when needed. (Source: Articles on Diagnostic Assessment, Dr. Moulay Al-Mustafa Al-Barjaoui, p.58)

2.4. Characteristics of Diagnostic Assessment:

- 1) It is conducted at the beginning of the instructional session.
- 2) It allows the teacher to adapt instruction to the students' needs.
- 3) The teacher's skill and competence rely on designing a diagnostic assessment that enables the development



Soumission : 13/04/2025 Acceptation : 09/06/2025 Publication : 25/08/2025

of an instructional plan and the anticipation of students' difficulties.

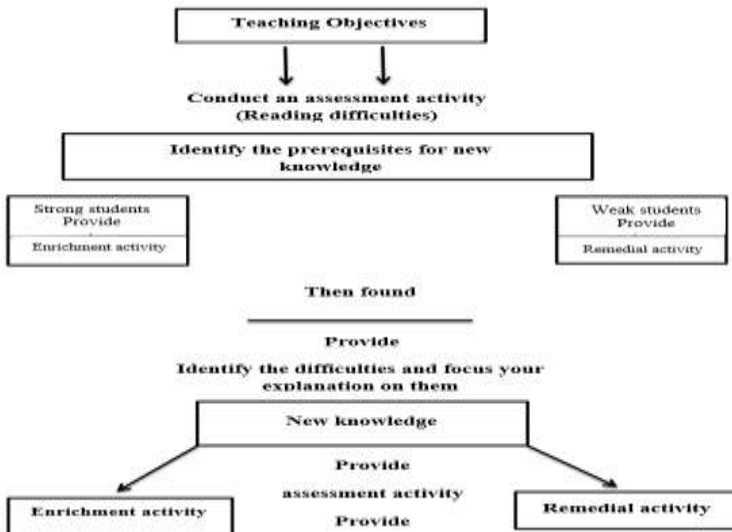
- 4) It is brief.
- 5) It is not tied to a specific context.
- 6) It is not graded (no score is assigned).
- 7) It can be administered individually or in groups.

2.5. How to Conduct Diagnostic Assessment:

- 1) Carry out a summative evaluation for assessment purposes.
- 2) Derive an appropriate learning strategy.
- 3) Refer back to the evaluation results.

3. Diagnostic assessment of reading difficulties

The steps are:



Rizq Abu Safar, Teacher's Guide to Diagnostic Assessment, Jordan, 2000, p.4.

Categories of Children Identified and the Process of Recognition:

Researchers agree on the existence of three categories of children who must receive early intervention services:

- Children who already have a clearly identified problem or specific disability.
- Children at biological risk.
- Children at environmental risk (Foster & Faster, 1993).
- Some add a fourth category:
- **Developmentally delayed children.**

It is noted that all these children are within a risk spectrum – whether the risk is currently present, known, or expected to appear in the future. Below is a brief description of each category:

3.1. Children with an existing risk condition:

These are children who have been formally diagnosed with specific medical disorders known in terms of their causes and symptoms. Such conditions include genetic disorders like Down syndrome, metabolic disorders like phenylketonuria (PKU), congenital deformities, neurological disorders such as cerebral palsy, and sensory impairments. Children in this category may not necessarily show developmental delay, but the likelihood of its occurrence ranges between 65% and 90% (Bean, 1993). The criterion used here is the medical criterion.

3.2. Children at biological risk:

These are children with a medical history involving complications before birth, during pregnancy, delivery, or



after birth that may threaten the development of the central nervous system. They currently do not have a disability, but these biological conditions increase the likelihood of future developmental delay or learning problems if no therapeutic intervention occurs.

A defined list of such risk factors has been established based on research findings, and the criterion used here is the presence of at least one factor from this list, as determined by a multidisciplinary evaluation team.

Among the most important biological risk factors are maternal drug addiction, premature birth, and low birth weight.

Due to advances in medical science, the standards for defining premature birth and low birth weight have changed; premature birth now refers to 25–26 weeks of gestation and a birth weight below 1.5 kg (Hansen & Lynch, 1995). It should be noted that many children born under biological or medical risk conditions recover naturally without formal intervention.

3.3. Children at environmental risk:

Children in this category have no biological or genetic disorders, and their pregnancy and birth conditions are normal, but the quality of their early experiences and environmental circumstances pose a potential threat to their normal development. These conditions increase the likelihood of behavioral, cognitive, and emotional problems in the future.

Environmental risk factors include poor maternal care and stimulation, malnutrition, lack of medical care, and economically or culturally deprived family environments.

The criterion used here also depends on the decision of a multidisciplinary evaluation team.

3.4. Developmentally delayed children:

Some researchers include these children in the first category, which is common, while others consider them a separate category based on the actual presence of developmental delay in two or more developmental domains during the first two years of life.

Here, both psychometric and clinical criteria are used. A child scoring between one and two standard deviations below the mean on a standardized developmental scale is considered to have developmental delay.

The clinical criterion relies on the judgment of a multidisciplinary team that uses various sources of information to make a final decision about the child's abilities. (Al-Huwaidi, 2016)

1. Model: 01

Level: Second

Subject: Reading

Topic: Managing Reading Difficulties of the Letters (B, T, TH, N, J, H, KH)

Objective: To help learners acquire the ability to address difficulties related to reading the letters (*B, T, TH, N*) and (*J, H, KH*) both in isolation and within fixed and movable vocabulary, including short vowels, long vowels (madd), tanween, gemination (shaddah), and difficulties related to reading *Hamzat al-Wasl*.



Materials: The board, charts.

<p>First Lesson: The Group (B, T, TH, N) – Tanween and Long Vowels</p>	<p>Fifth Lesson: The Group (J, H, KH) + Gemination (Shaddah)</p>
<p>Activity 1: Reading the group letters with short vowels on a board, for example: B - baqara (cow), B - bi'r (well), T - taktub (she writes), TH - athl, N - alawn (I color) N - nakhruj (we go out), N - nibal, THU - yub'ath (is sent)</p> <p>Activity 2: Reading the group letters with long vowels on a board, for example: THA - thalith (third), TI - ukhti (my sister), BU - ankabut (spider), NA - yanam (he sleeps), BI - yabee' (he sells), THO - yathur (he revolts)</p> <p>Activity 3: Reading the group letters with tanween on a board, for example: I drank a cup of milk. I ate a bunch of grapes. I drew a house, a door, a bowl, and a plowman. This is a bear, and that is a lion. This is hay, and that is a mulberry.</p>	<p>Activity 1: Reading the group letters with short vowels on a board, for example: Ha haratha (plowed), Ja jamal (camel), Kha kharaja (went out), Ha yanbah (barks), Ja yajurr (pulls), Kha khuwar (mooing) Ha hibal (ropes), Ja jibal (mountains), Kha khilafat (differences)</p> <p>Activity 2: Reading the group letters with long vowels on a board, for example: Kha khawja, Ha sabah, Ja dajaj, Ha yuhaki, Ju yajul, Khi akhi, Ja jalis, Kho takhur, Hi hila</p> <p>Activity 3: Reading the</p>

	<p>group letters with gemination (shaddah) on a board, for example: Najjar (carpenter), naja (succeeded), yusahhih (corrects), sahha (he recovered), taakhkhar (was late), akhkhar (delayed). The pilgrims returned safely, and the loved ones gathered to greet them.</p>
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2. Model: 02

Level: Second

Subject: Reading

Topic: Managing Reading Difficulties of the Letters (K, L) and Hamzat al-Wasl

Objective: To help learners acquire the ability to address difficulties related to reading the letters (K, L), tanween, gemination (shaddah), and the difficulties associated with reading *Hamzat al-Wasl*.



Materials: The board, charts.

Lesson 9: The Group (K, L) + Hamzat al-Wasl (Connecting Hamza)	Guidelines
<p>Activity 1: Reading the two group letters with short vowels, for example: Ka akala (ate), Ka kura (ball), Ka kilab (dogs) La la'iba (played), Lu lu'ab (saliva), Li litham (veil)</p> <p>Activity 2: Reading the two group letters with tanween and long vowels on a board, for example: Ka ka'ka, Lun hilalun (moon), Kun samakun (fish) Ka makan (place), Ku katkut (chick), Ki kis (bag), Ka malakin (angels), Lu blok (block), Li alim (knowledgeable)</p> <p>Activity 3: Reading the isolated Hamza and at the beginning of words, and omitting its pronunciation in the middle of sentences, for example: Ibn 'Ad returned, my cousin returned from travel. Irtama al-haris (the guard threw himself), irtama 'ala al-kura (on</p>	<p>The teacher writes each activity board on the blackboard, highlighting the targeted letters and elements in a different color.</p> <p>Care should be taken to select appropriate spelling patterns so that the teacher reads both fixed and movable words.</p> <p>General reading: The boards are read both in order and out of order. Focus should be placed on struggling learners. Encourage proficient students to participate in the reading activities.</p>

<p>the ball). Uktub anta (you write), uktub bikhaṭin wadiḥ (write neatly). Udkhul anta (enter), udkhuli al-hujra binidham (enter the room orderly). Al-kalb yanbah (the dog barks), al-kalb.</p>	
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Conclusion

In summary, many researchers in the field of education and learning sciences have emphasized that reading is one of the key skills taught at school, considered as a fundamental tool that enables the child to effectively access and engage with other subjects.

Hence, it can be stated that reading difficulty (dyslexia) is a major factor contributing to academic failure, as pointed out by Hughes (1976), who stressed the importance of diagnostic assessment through tools such as testing, measurement, evaluation, and diagnosis in the field of reading difficulties.

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Soumission : 13/04/2025 Acceptation : 09/06/2025 Publication : 25/08/2025

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