RESEARCH ARTICLE	**Manifestations of Reading Errors among a Sample of Fifth Grade Primary Pupils**

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Abstract

The study aims to identify the manifestations and types of reading errors among a sample of fifth grade primary pupils. The sample included 55 pupils, among whom 25 exhibited reading difficulties, while 30 were of average to above-average performance (typical pupils).

To collect data, the Holiday Text Test by Dr. Saliha Ghellab was used. Employing a descriptive-analytical approach, the study revealed various types of errors, including omission, addition, repetition, substitution, and inversion, although these errors appeared in varying proportions and order across the two groups.

The study also found a relationship between reading speed and the number of reading errors.

Introduction

Reading is considered one of the fundamental language skills, as it relies on the verbal repertoire and linguistic abilities that pupils acquire at the beginning of their learning journey. A pupil's readiness to learn the skill of reading depends on their cognitive and physical maturity, the degree of difficulty or ease they encounter with the skill, its social function, and the personal or general goals it helps them achieve. Just as pupils differ in their intellectual and emotional capacities and learning

abilities, they also differ in reading achievement (Fahim Mostafa, 1998). Therefore, reading activity holds critical importance in the educational process and in subsequent stages of academic achievement, especially during primary school, where special emphasis is placed on this activity.

Proper acquisition of reading begins with connecting the written form of letters to their spoken sounds, progressing to reading words and understanding their meanings, then assembling words into grammatically and semantically correct sentences, and ultimately reading a text at a normal pace. This process includes forming a general idea and identifying specific details from the text, understanding its content, and drawing pragmatic conclusions from it. However, according to Kyle and Fayol (2000), by the end of primary school, pupils' reading levels vary—some read fluently, while others experience varying degrees of reading difficulty, with some showing a clear inability to learn to read. These difficulties may have apparent causes such as low intelligence levels, certain neurological conditions, or may stem from familial, social, or educational factors.

Some pupils may struggle to recognize letters or words, suggesting a possible disruption in visual information processing or in underlying cognitive processes (such as phonological awareness or visual perception), which are essential to acquiring reading skills. These disruptions often result in numerous reading errors that differ in type and severity from one pupil to another. This raises questions: Are these errors linked to a dysfunction in specific cognitive processes? Is there a variation in the type or types of errors committed?

From this perspective, studying the manifestations of reading errors that emerge during reading activity becomes necessary. Understanding the types and manifestations of these errors is crucial in helping teachers comprehend the process of reading acquisition and development, as well as identifying signs of dysfunction and addressing them before they worsen. According to Bond and others (1986), it is natural for children to make reading errors that range in severity from simple to complex, potentially leading to severe reading disabilities, which calls for early study of these indicators and manifestations (Al-Hawamdeh et al., 2000, p. 109). It is from this standpoint that the present study was undertaken to describe and analyze the manifestations of reading errors among fifth grade primary pupils.

Problem Statement:

Mastering the mechanisms of reading enables the child to decode written words and assign them a phonological form, which is then used to retrieve the word's meaning from memory based on its orthographic representation stored in long-term memory (Christine Gaux & Florence Lacroix, 2004, p. 29).

Learning the alphabetic system encourages the child to pay attention to the features of words and to learn how to convert letters or letter groups into their corresponding sounds. The phoneme is considered the smallest sound unit in a language that allows differentiation between two words. For example, in the word qalb (heart), the letter q represents a phoneme with no inherent meaning, but if it is replaced with another phoneme like k, the word changes in meaning to kalb (dog) (Elisabeth Demont & Jean-Emile Gombert, 2004, p. 245).

This alphabetic system corresponds to what is referred to as the assembly-to-lexicon route (the lexicon being the mental dictionary of words). Studies that have followed the same children during their reading acquisition show that mastery of decoding and word recognition is the key condition for successful reading. Readers who perform well in decoding tend to make more progress later in reading, as they are able to retrieve the phonological form of a word stored in long-term memory directly through the orthographic procedure, which aligns with the addressing route.

While a significant number of children succeed in developing good reading skills thanks to their quick and accurate word identification others experience slow, effortful, and fragmented reading with various types of errors, whether at the letter or word level. These errors can hinder their comprehension, as understanding a text (which is the main goal of reading) depends on both oral comprehension and mastery of reading mechanisms. Thus, the child must develop a set of processes that allow for the decoding and accurate and rapid recognition of different words (Ecalle & Magnan, 2002, p. 85).

Based on research in cognitive psychology and neuroscience, several models have been proposed to explain reading activity and acquisition. These models distinguish between various levels of processing visual, phonological, semantic, morphological, syntactic, and pragmatic each of which involves specific knowledge, processing, and procedures for encoding information (Gombert, 1990).

A child's acquisition of reading and mastery of its mechanisms likely occurs through different stages and may involve stumbling blocks along the way, resulting in errors. These may include letter-level errors such as distorting a letter's pronunciation (often due to confusion between phonetically similar sounds), omitting letters from words (e.g., ḥulūl → ḥūl), substituting one letter for another (e.g., al-ṣaḥrā' → al-ṭaḥrā'), or reversing the order of letters (e.g., taʿūd → tūʿad). These errors result in semantic distortions or meaningless words. Other errors include substituting entire words—whether similar in meaning, shape, or completely different—such as manzil (house) becoming dār, maʿzil, or mazil.

These errors often affect reading speed, requiring more time and negatively impacting overall comprehension. While such mistakes may be temporary and minor for some schoolchildren, they may persist for longer durations and with greater severity for others (Desh & Tashma, 2019, p. 272).

In order to identify the manifestations of reading errors among pupils, the idea for this study emerged with the aim of identifying and analyzing the reading errors committed by fifth grade primary pupils. Accordingly, the following research question was posed:

<div align="center">**What are the main manifestations of reading errors among fifth grade primary pupils?**</div>

Significance of the Study:

- The importance of this study lies in the following:

- It addresses a highly important topic—reading and the difficulties pupils face while learning it.

- It sheds light on the analysis and study of reading errors made by pupils during the reading acquisition process.

- The results of this study can be used to develop a remedial strategy to address reading difficulties.

Objectives and Hypotheses of the Study:

This study aims to:

- Identify the main reading errors committed by pupils during reading activities.

- Classify reading errors among fifth grade primary pupils.

- Determine and analyze the differences in the type and number of reading errors between pupils with average to above-average performance and those with poor performance in reading.

- The following hypotheses are proposed:

- There is no difference in the manifestations of reading errors between the two groups (average/good vs. below average/poor).

- The order and frequency of reading errors do not differ between the two groups (average/good vs. below average/poor).

- There is a relationship between the time spent reading and the rate of reading errors.

Scope of the Study:

This study was based on a sample of fifth grade primary pupils. The fieldwork was conducted on a sample consisting of 55 pupils (31 boys and 24 girls) from four primary schools located in the districts of El Harrouch and Sidi Mezghiche.

The study and the administration of the test were carried out over a period of two months (April and May 2024).

Operational Definitions:

• **Reading Errors (Manifestations):** These refer to the mistakes made by the pupil during reading, which appear in the form of **omission**, **substitution**, **addition**, **repetition**, **inversion**, or **confusion**. The type and number of errors committed are determined using the *Holiday Text Test* developed by researcher Saliha Ghellab.

• **Reading Speed and Time:** The amount of time a pupil takes to read the entire text. It is measured using a stopwatch. The standard time allocated for reading the text is **three minutes**.

• **Pupils with Average to Above-Average Reading Performance:** A group of fifth grade primary pupils who demonstrate a **medium to good or excellent** level of reading performance, scoring **5 out of 10 or higher** in the reading subject.

• **Pupils with Poor Reading Performance:** A group of fifth grade primary pupils who demonstrate a **below-average to poor** level of reading performance, scoring **less than 5 out of 10** in the reading subject.

Previous Studies:

❖ **Desh and Tashma Study (2019):**

This study aimed to describe and analyze reading and spelling errors in the Arabic language among a sample of fourth grade primary pupils. The sample included 33 pupils, of whom 13 exhibited weaknesses in reading and spelling, while 19 were of average or above-average performance.

The study revealed the presence of reading and spelling errors, such as omission, addition, substitution, repetition, inversion, confusion, and errors specific to the Arabic language. It also confirmed a correlational relationship between reading speed and the number of errors, and found statistically significant differences between pupils with language difficulties and typical pupils in both the number of errors and the reading time.

❖ **Ben Chena Amel El-Kheir and Dhabaa Mariam Study (2022):**

This study aimed to identify the main manifestations of recognition errors in oral reading among pupils with reading difficulties in the third grade of primary school. The research was conducted on a sample of third grade pupils, using a diagnostic test for word recognition difficulties and familiar word reading. The test was designed to assess reading difficulties and included key reading skills that pupils are expected to master by the end of the second grade. The sample consisted of 20 pupils who exhibited difficulties in word recognition as measured by the test.

The results showed that the pupils suffered from several types of errors, including:

• Reading words that are visually or phonetically similar

• Difficulty pronouncing tanween (nunation)

• Difficulty reading words containing a shadda (gemination)

Additionally, the study found **no statistically significant differences** in the mean scores of oral reading error skills in the test that could be attributed to the **gender variable**.

❖ **Fergoui Mariam Study (2023):**

This study aimed to shed light on the difficulties in learning to read among primary school pupils in Algeria and to explore how these difficulties can be addressed to prevent academic achievement problems. The study sought to identify the causes, types, and symptoms of reading difficulties and concluded by proposing remedial methods and strategies to deal with these difficulties and reduce their severity.

❖ **Beddaoui and Ouellibren Study (2022):**

The objective of this study was to diagnose reading difficulties and determine their prevalence among primary school pupils at Youssef Dammarji School in the city of Miliana, Aïn Defla Province, as well as to examine gender differences in the prevalence of reading difficulties. A preliminary sample of 30 pupils (boys and girls) was selected. The study was conducted using a set of diagnostic tools, including the Raven Intelligence Test and a diagnostic rating scale for reading difficulties.

After data analysis, the results revealed:

- A high prevalence rate of reading difficulties estimated at 34.84% of the total sample.

- No significant gender differences in the prevalence of reading difficulties.

❖ **Virginie Leclercq, Caroline Viriot-Goeldel, and Corinne Gallet Study (2019):**

This study aimed to evaluate the effectiveness of a program designed to detect and treat word recognition difficulties among primary school pupils. The participants were assessed at the beginning of the school year using a word recognition test in order to identify pupils experiencing such difficulties. The sample was then divided into two groups:

- The **first group** received **intensive remedial sessions** based on a program that focused on training pupils to master **decoding mechanisms** and to develop their **mental lexicon**.

- The **second group** followed a **standard school curriculum** without any specialized intervention.

At the end of the school year, the pupils were reassessed. The results showed significant improvement in the word recognition skills of the group that had undergone the remedial program, in comparison to the pupils who had followed the regular curriculum.

❖ **Mohamed Saad Bakri Study (2018):**

This study focused on examining the effectiveness of a phonological awareness-based unit in addressing spelling errors among fourth grade primary pupils. A sample of 60 female pupils from Beni Madi Primary School for Girls was selected and divided into two groups:

- An experimental group of 30 pupils, who received phonological awareness training over a period of five weeks, and

- A control group of 30 pupils, who did not receive the training.

The results indicated significant differences between the experimental and control groups in the post-test spelling assessment, demonstrating the effectiveness of the proposed unit in improving spelling skills among pupils.

❖ **Mohamed Al-Hawamdeh Study (2010):**

This study aimed to describe and analyze oral reading errors among third grade primary pupils and to assess their proficiency in language components (phonological, syntactic, and semantic systems). The study sample consisted of 22 pupils, equally divided between boys and girls.

The research employed Goodman's (1972) Reading Error Analysis Checklist, which is widely used in similar studies.

The findings revealed that the most common errors were substitution errors, followed by omission, and then addition errors. The study also showed no statistically significant differences attributable to the gender variable.

❖ **Lyne Bessette Study (2019):**

This study aimed to track the development mechanisms of reading fluency and its relationship to the reading curriculum by examining certain components such as accuracy and speed among pupils from second to fourth grade, including both typical pupils and those with reading difficulties.

The study was conducted on a sample of 260 pupils:

- 149 pupils participated in a special program designed to improve reading skills (experimental group),

- 111 pupils followed regular classroom programs with their teachers (control group).

The results showed that pupils who received the special program demonstrated notable improvement in reading fluency, especially in accuracy and speed, compared to the control group across all grade levels.

The findings also indicated that pupils with learning difficulties showed greater improvement in reading speed than in accuracy, which was attributed to poor word comprehension. In contrast, typical pupils tended to link words to their meanings in an effort to understand the text, leading to a more balanced development of both accuracy and speed.

Commentary on Previous Studies:

Previous studies have addressed the topic of reading and learning difficulties, aiming to identify these difficulties and determine their prevalence among pupils. They have focused on describing and analyzing the errors that accompany the reading acquisition process and on developing remedial programs to help reduce these difficulties.

In contrast, the present study seeks to describe the patterns of reading errors among pupils at various performance levels, while also identifying the causes and contributing factors behind these errors. Additionally, it aims to rank the most frequent error types observed in pupils at the end of the primary stage and transitioning into middle school. The study also attempts to determine the relationship between reading speed and the occurrence of errors.

General Principles of the Function of Reading:

There are several principles that govern the function of reading in typical individuals, summarized as follows:

1. **Fluency:** The reading function is characterized by fluency; skilled readers recognize words quickly, effortlessly, and automatically. It relies on mastery of decoding to identify words with speed, accuracy, and ease.

2. **Constructive and Cumulative:** Reading is a constructive process, where the individual derives meaning from the text based on their prior knowledge and experiences.

3. **Strategic Process:** Reading is a strategic activity that requires the reader to use mental flexibility in selecting strategies appropriate to the nature of the text, the purpose of reading, and the reader's familiarity with the content.

4. **Motivated Activity:** Reading is driven by motivation, requiring sustained attention. Maintaining this attention is difficult unless the text is engaging and stimulating, offering new ideas and insights.

5. **Lifelong Process:** Reading is a lifelong activity that improves with increased practice, and it deepens through repetition and engagement. Progress occurs gradually with cognitive maturation and ongoing exposure. (Fathi Mostafa Al-Zayyat, 1998)

6. **High Attention and Inference:** Reading involves intense attention to real-world facts, the ability to draw inferences, recognize similarities, and focus on distinctions expressed through words chosen by the readers. (Solso, 1992)

t is clear from the above that reading is a fundamental function in our daily lives, as it enables individuals to acquire various forms of knowledge, facilitating the comprehension of environmental stimuli. Reading also involves multiple cognitive abilities and processes, the most important of which include attention, visual perception, memory, and mental representation—all of which highlight the significance of this function.

Since reading is a dynamic mental function composed of several processes, many researchers have proposed conceptualizations or models to explain how this function operates. Among the most notable are:

1. Bottom-Up Models:

Bottom-up models propose that information from the text forms the basis of the reader's knowledge, and that this information passes through several stages of processing until the reader ultimately reaches general and lasting information.

Some of the most well-known models in this category include: **Gough's Model (1972), LaBerge and Samuels' Model (1984)**

Researchers have outlined the main components of the reading function as follows:

- **Attention:** According to researchers, reading consists of two main components: decoding and comprehension. The first focuses on the visual analysis of words, while the second deals with extracting the meaning of the encoded material. Both components require attention, the level of which varies depending on the reader's skill and prior experience.

- **Visual Memory:** Responsible for extracting the visual features of stimuli (words), analyzing the letters that compose them, and converting them into alphabetic patterns.

- **Auditory Memory**: Involves analyzing sounds, syllables, and verbal input structures, helping to extract meaning by linking visual memory with semantic memory. However, skilled readers often bypass this channel, accessing meaning directly.

- **Episodic Memory:** Recalls specific events related to people, places, or times, and organizes information based on temporal and spatial characteristics.

- **Semantic Memory:** Stores the individual's knowledge base and assists in decoding unfamiliar words by providing context and meaning.

- **Feedback Loops:** Feedback from semantic memory is sent to auditory and visual memory, influencing information processing at earlier stages. This helps the reader predict upcoming words based on knowledge of the text or by guessing a word from its initial letter.

- **Semantic Network**: A network of stored information and representations at various levels, from the lowest level (letters) to full words. It forms a web of associations through which individuals interpret texts differently, based on their stored ideas and relational links in memory.

2. Top-Down Models:

Some researchers refer to top-down models as psycholinguistic models or information processing models (Block, 1997). In these models, the reading process begins with the highest level of information, namely the reader's prior knowledge of the world, which is used to form continuous hypotheses about the words encountered in the text. This prior knowledge helps the reader recognize words, read the text accurately, and grasp its meaning. In other words, this information supports the understanding of basic details within the text.

One of the most prominent examples of this approach is Goodman's Model (1971), which views reading as a psycholinguistic guessing game. According to Goodman, the reading process involves the following steps:

- Sweeping the eyes across the written line (from right to left in Arabic, or left to right in Western cultures).

- Fixating the eyes on the word intended to be read.

- Selecting cues based on the reader's prior experiences and the information stored in long-term memory.

- Formulating perceptual hypotheses about a part of the text, based on what the reader sees and expects to see.

- Searching memory for cues to enrich and refine the perceptual hypothesis.

- Storing the hypothesis if correct in short-term memory, and verifying its accuracy through contextual meaning.

- If the hypothesis is incorrect, the reader returns to the written cues to identify the source of conflict between the hypothesis and the linguistic structure of the text.

Method and Tools:

In this section, we present the study methodology, the tools used, a description of the sample, and a discussion of the results.

Methodology and Study Procedures:

The descriptive-analytical method was employed to describe and analyze the manifestations and types of reading errors, as well as to determine the percentage of each type of error among the two groups (average/good vs. below average/poor performance).

The study was conducted in four primary schools located in the districts of El Harrouch and Sidi Mezghiche, in the Wilaya of Skikda. It was carried out during the third term of the 2024 school year (April–May).

Study Sample:

The study sample consisted of 55 fifth-grade primary pupils (31 boys and 24 girls). The sample was selected using a stratified sampling method, dividing the pupils into two groups:

- The first group included pupils who demonstrated an average to above-average level in reading activities.

- The second group included pupils with a below-average to poor level in reading.

This classification was carried out under the guidance of teachers and was based on the pupils' reading scores. The individuals were then randomly selected from both strata.

The following table presents the characteristics of the sample based on gender and reading performance level.

Table (1): Characteristics of the Sample by Gender and Reading Performance Level

Gender	Below Average / Poor Performance		Above Average / Good Performance	
Males	% 30.90	17	% 25.45	14
Females	% 14.54	8	% 29.09	16
Total	% 45.45	25	% 54.54	30

It appears from Table (1) that the percentage of pupils with average to above-average performance reached 54.54%, i.e., 30 pupils (13 females and 17 males), while the percentage of pupils with below-average performance reached 45.45% (11 females and 14 males).

Study Tools:

As this is a descriptive study, interviews and observation were used to identify the study sample and control its variables, as well as to select the appropriate tests for measurement. In the pilot phase, the focus was on interviewing teachers to explain the objectives of the study and the characteristics of the sample, in order to receive their assistance and guidance and to determine the appropriate time for administering the tests.

Administration of the Reading Test:

After selecting the sample with the help of teachers and by reviewing pupils' grade sheets, individuals were identified in each fifth-grade class. Pupils were also observed to confirm whether they met the characteristics of the sample, either for inclusion or exclusion. Teachers explained to the participating pupils the purpose and objective of the test and how it would be administered, in order to ensure their understanding and obtain accurate test results.

Reading Test:

This study used the "Holiday Text" Test developed by Saliha Ghellab, which is a text-based reading test...

Test Procedure:

The test was administered individually. The pupil sat in a comfortable position, the text was placed in front of them, and they were asked to examine it. Once ready, they began reading aloud upon signal, while a stopwatch was used to record the time taken to read the text. The researcher marked on a correction sheet the words misread, classified each type of error, and recorded the reading time.

Test Correction:

The correction process was carried out in the following steps:

• Identifying responses that reflected the sample characteristics.

• Recording the errors made by each participant, classifying the type of error and noting its frequency in a table, based on the theoretical framework for classifying reading errors (substitution, omission, addition, inversion, repetition, confusion).

• Recording the reading time for each individual in a separate table.

Presentation of Study Results:

Table (2) presents a description and classification of the types of reading errors among the average/good performance group.

Errors	Examples:
Substitution: Replacing one consonant in a word with another consonant.	al-ʿāliyah → al-ʿādiyah / al-ṭabīʿah → al-ṭabībah / sāriʿa → ṣāriʿa / mughayyib → maʿīb العالية، العادية / الطبيعة، الطبيبة / سارع، صارع / مغيب / معيب.
Omission: The omission of one or more consonants from a word.	al-nakhīl → al-nakhl / muṭwāʿan → muṭawwaʿan / tamarradat → taraddat / ṣadīqahu → ṣadīq / taṭāyirat → taṭīr / hadaʾat → hadat النخيل، النخل / مطواعا، مطوعا / تمردت، تردت / صديقه، صديق / تطايرت، تطير / هدأت، هدت.
Addition: The addition of one or more consonants to a word.	habbat → dhahabat / laʿiba → al-laʿib / aḥabba → aḥabbahu / fī → fīhā / madīnah → al-madīnah هبت، ذهبت / لعب، اللعب / أحب، احبه / فى، فيها / مدينة، المدينة.
Inversion: A disruption in the order of the consonants within a word.	mudun → mand / fāris → firās / taʿarraf → tarfaʿ / taʿūd → taʿūd / fārtajafat → fārtafajat

	مدن، مند / فارس، فراس / تعرف، ترفع / تعود / تعود / فارتحفت، فارتفجت.
Repetition: Repetition of a consonant, a syllable, or even a word during reading.	*yazbid → yazizbid / aḥabba aḥabba → aḥabba / zawbaʿah ramliyyah → zawbaʿah zawbaʿah ramliyyah / mudun → mudunn / muṭwāʿan → muṭmuṭwāʿan* يزبد، يزيزبد، / أحب أحب، أحب /زوبعة رملية، زوبعة زوبعة رملية /مدن، مدن / مطواعا مطمطواعا.
Confusion: Confusing words that are similar in spelling or close in meaning.	*qaḍā fāris → qāda al-fāris / baʿḍ → baʿd / buzurqah → yarūquh / sāḥah → sāḥil / li-rifāqihi → li-rufaqāʾihi* قضى فارس، قاد الفارس / بعض، بعد / بزرقة، يروقه / ساحة، ساحل / لرفاقه، لرفقائه.
Other: Distorting a word so that it becomes meaningless, or producing words that do not belong to the mental lexicon.	*zawbaʿah → rūbūʿah / yazbid → yanrub / takhūḍ → takhūṭ / fināʾahā → futatāhā / mughayyib → maʿbabb / yabqa → bīqu* زوبعة، روبوعة / يزبد، يمرب / تخوض، تخوط / فنائها، الفتاتها / مغيب، معبب، / يبق /بيقو.

Based on the data presented in the table above, we observe the main types of reading errors among the pupils in the study with average to above-average performance, and we note that the most common errors were:

- **Substitution:** Replacing one consonant with another, which may be **phonetically similar**, such as *(s, ṣ) (ص، س) → sāriʿa, ṣāriʿa* سارع، صارع or **visually similar**, such as *(ʿ, gh) (ع، غ) →* معيب، مغيب *mughayyib, maʿīb*, or even **completely different**, such as *(ع، ب)*طبيعة، طبيبة *(ṭabīʿah, ṭabībah)*.

- **Omission:** Omitting one or more consonants from a word. Most often, **long vowels** *(alif, wāw, yāʾ)* (ألف، واو، ياء) were omitted, as in نخل، نخيل *nakhīl → nakhl*, مطوعا، مطواعا *muṭwāʿan → muṭawwaʿan*, or a **final letter** such as the pronoun *hāʾ*, e.g., صديق، صديقه *ṣadīqahu → ṣadīq*.

- **Addition:** Adding one or more consonants to a word, commonly **alif** and **lām**, as in المدينة، مدينة *madīnah → al-madīnah*, or **tāʾ** and **hāʾ** at the end of words, e.g., *aḥabba → aḥabbahu*.أحب، أحبه

- **Repetition:** Repeating one or more consonants; sometimes this repetition involves an entire word, as in مدنن، يزيزبد، أحب أحب/*(maddanan, yizizbid, aḥabb aḥabb)*.

- **Confusion:** Pronouncing a word similar in **shape** or **meaning** to the original, قاد الفارس instead of قضى فارس*(qāda al-fāris → qaḍā Fāris)*, or لرفاقه instead of رفقائه*(li-rifāqih → rifaqāʾih)*.

Other: Producing **distorted or meaningless words**, often not found in the mental lexicon, ربوعة، معبب *(rubuʿah → maʿbabb)*.

Table (3): Description and Classification of Reading Error Types among the Below-Average / Poor Performance Group.

Errors	Examples
Substitution: Replacing a consonant in the word with another consonant.	*al-ṣaḥrāʾ → al-ṭaḥrāʾ / mudun → madīnah / baʿḍ → baʿd / yaghḍab → yaʿḍab / al-wāsiʿah → al-māsikah / taʿūd → tuʿawwīḍ / suqūf → suqūṭ / jalūl → jalāl / qurb → qalb* الصحراء، الطحراء / مدن، مدينة / بعض، بعد / يغضب، يعضب /الواسعة، الماسكة / تعود، تعوض / سقوف، سقوط / جلول، جلال / قرب، قلب.
Omission: Omitting one or	*al-rimāl → al-raml / al-khārij → khārij / al-ghirbān → al-gharb / al-wāsiʿah → wāsiʿah /*

more consonants from the word.	$nā\ʿibah \rightarrow na\ʿb$ / $al\text{-}janūlah \rightarrow al\text{-}janūl$ / $riḥlatah \rightarrow riḥlah$ / $shawāṭi' \rightarrow shaṭṭ$ / $fayurghī \rightarrow fayarā$ الرمال، الرمل / الخارج، خارج / الغربان، الغرب / الواسعة، واسعة / ناعبة، نعب / الجميلة، الجميل / رحلته، رحلة / شواطئ، شط / فيرغي، فيرى
Addition: Adding one or more consonants to the word.	$al\text{-}nakhīl \rightarrow al\text{-}nakhīliyyah$ / $jalūl \rightarrow al\text{-}jalūl$ / $ittijāh \rightarrow ittijāhāt$ / $la\ʿiba \rightarrow al\text{-}la\ʿib$ / $qurb \rightarrow qarīb$ / $ṣadīquh \rightarrow ṣadīqatu\text{-}hā$ / $al\text{-}rabī\ʿ \rightarrow al\text{-}rabī\ʿiyyah$ النخيل، النخيلة / جلول، الجلول / اتّجاه، اتّجاهات / لعب، اللعب / قرب، قريب / صديقه صديقتها / الربيع، الربيعية.
Inversion: Disruption in the order of consonants within the word.	$fāris \rightarrow firās$ / $ta\ʿarraf \rightarrow tarfa\ʿ$ / $suqūf \rightarrow sufūq$ / $muṭwā\ʿan \rightarrow muṭāwi\ʿan$ / $mudun \rightarrow mand$ / $yahda' \rightarrow yadahā$ / $ta\ʿūd \rightarrow tuwa\ʿid$ فارس، فراس / تعرف، ترفع / سقوف، سفوق / مطواعا، مطاوعا / مدن، مند / يهدأ، يدها / تعود، توعد.
Repetition: Repeating a consonant, a syllable, or even a word during reading.	$al\text{-}jawlah \rightarrow al\text{-}jawāl\text{-}jawālāt$ / $bi\text{-}iṭmi'nān \rightarrow bi\text{-}ṭma'ninnah$ / $tasallaqa \rightarrow tasallaqqū$ / $fa\text{-}yuṣbiḥ \rightarrow fa\text{-}ṣayyuṣbiḥ$ / $al\text{-}jawlah \rightarrow jawlālāt$ الجولات، الجوالجولات / باطمئنان، بطمئننة / تسلق، تسلققو / فيصبح، فيصفيصبح / الجولات جولالات.
Confusion: Confusing words that are similar in spelling or close in meaning.	$ramliyyah \rightarrow al\text{-}rimāl$ / $al\text{-}ṭabī\ʿah \rightarrow al\text{-}ṣa\ʿībah$ / $al\text{-}madīnah \rightarrow al\text{-}madrasa$ / $ba\ḍ \rightarrow ba\ʿd$ / $zāl \rightarrow nazal$ / $suqūf \rightarrow sūq$ / $rifqatuh \rightarrow rafīqatuh$ / $zawba\ʿah \rightarrow zawābi\ʿ$ / $al\text{-}manāzil \rightarrow al\text{-}zalāzil$ / $al\text{-}janūb \rightarrow jānfī$ / $al\text{-}ḥarakah \rightarrow al\text{-}ḥarārah$ / $al\text{-}nās \rightarrow al\text{-}insān$ / $shawāṭi' \rightarrow shurūṭ$ رملية، الرمال / الطبيعة، الصعبية / المدينة، المدرسة / بعض، بعد / زال، نزل / سقوف، سوق / رفقته، رفيقته / زوبعة، زوابع / المنازل، زلازل / الجنوب، جانفي / الحركة، الحرارة / الناس الانسان / شواطئ، شروط.
Other: Distorting a word so that it becomes meaningless or producing words that do not belong to the mental lexicon.	$jalūl \rightarrow jāwal$ / $nā\ʿibah \rightarrow nāghimah$ / $al\text{-}jawālāt \rightarrow jawlūlah$ / $suqūf \rightarrow taqūf$ / $tasallaqa \rightarrow taysaq$ / $buzurqah \rightarrow buzurqāwah$ / $takhūḍ \rightarrow taṭghan$ جلول، جاول / ناعبة، ناغمة / الجولات، جولولة / سقوف، تقوف / تسلق، تيسق / بزرقة، بزرقاوة / تخوض، تطغن.

Based on the data presented in the table above, we observe that the most prominent types of reading errors among pupils in the study with below-average performance were as follows:

- **Substitution :** This occurs when a consonant in a word is replaced by another consonant. It may be phonetically similar, such as (ص، ط) → (صحراء، طحراء)($ṣaḥrā' \rightarrow ṭaḥrā'$), or visually similar, such as (ع) → (غ) (يغضب، يعضب)($yaghḍab \rightarrow ya\ʿḍab$), or even entirely different, such as (ف، ط) → (سقوف، سقوط)($suqūf \rightarrow suqūṭ$). Most substitutions in this group involved distant sounds and sometimes more than one consonant, as in الواسعة، الماسكة($al\text{-}wāsi\ʿah \rightarrow al\text{-}māsikah$).
- **Omission:** This refers to omitting one or more consonants from a word. Most commonly omitted letters were long vowels (ألف، واو، ياء) as in الخارج، خارج($al\text{-}khārij \rightarrow khārij$), or final letters like pronoun endings or plural markers, e.g. الغربان، الغرب($al\text{-}ghirbān \rightarrow al\text{-}gharb$) / فيرغي، فيرى($fayurghī \rightarrow fayarā$).
- **Addition:** This involves adding one or more consonants to a word. Frequently added letters include (ألف، لام), as in جلول ($jalūl \rightarrow al\text{-}jalūl$)الجلول, or endings like (تاء، هاء) as in صديقه، صديقتها($ṣadīquh \rightarrow ṣadīqatuhā$). In many cases, multiple consonants were added, as in النخيل، النخيلة($al\text{-}nakhīl \rightarrow al\text{-}nakhīliyyah$) / اتجاه، اتجاهات($ittijāh \rightarrow ittijāhāt$).
- **Repetition:** Repeating one or more consonants, syllables, or even entire words during reading. For example, تسلققو ($tasallaqqū$). In this group, repetitions were often long and affected several consonants, sometimes distorting the word completely, such as جولالات، بطمئننة($jawlālāt \rightarrow biṭma'ninnah$).

- **Confusion :** This involves reading a word similar in form or meaning to the original. For instance, بعض، بعد (baʿd → baʿḍ) / سقوف، سوق (suqūf → sūq). Often, pupils confused words with synonyms (e.g., الناس، الإنسان al-nās → al-insān) or similar-looking words (الحركة، الحرارة al-ḥarakah → al-ḥarūrah), or completely unrelated ones (الطبيعة، الصعبة al-ṭabīʿah → al-ṣaʿībah).

- **Other :** Distorted or invented words not belonging to the mental lexicon, such as تيسق، تقوف (taysaq → taqūf). In this group, such distortions were often severe, like جاول، ناغمة (jāwal → nāghimah). Some words also showed influence from colloquial dialect, for example جولولة، بزرقاوة (jawlūlah → buzurqāwah).

Table (4): Shows the percentage of each type of error relative to the total number of errors.

Sample	Below Average / Poor Performance Group		Average / Good Performance Group	
Type of Error	Percentage	Count	Percentage	Count
Substitution	% 20.9	208	% 15.58	67
Omission	% 26.53	264	% 30.93	133
Addition	% 28.74	286	% 26.74	115
Inversion	% 2.21	22	% 1.62	7
Repetition	% 8.74	87	% 16.04	69
Confusion	% 12.86	128	% 9.06	39
Total		995		430

Based on the table, we observe that both groups committed various types of errors at different rates and with different rankings of error patterns.

Among the average to good performance group, the most common error was omission, with a rate of 30.93%, followed by addition errors at 26.24%, then repetition errors at 16.04%. Next came substitution errors at 15.58%, confusion errors at 9.06%, and finally, inversion errors, with the lowest rate of 1.62%.

In contrast, among the below average to poor performance group, the highest percentage of errors was addition errors, at 28.24%, followed by omission errors at 26.61%, substitution errors at 20.98%, then confusion errors at 12.99%, repetition errors at 8.90%, and lastly inversion errors, at the lowest rate of 2.25%.

The table shows that both groups committed the same types of errors, but with a higher number of errors recorded in the second group (below average to poor) compared to the first group (average to good). The total number of errors was significantly higher in the second group.

Additionally, the ranking of error patterns differed between the two groups, particularly in the omission and addition categories: omission was the most frequent error in the first group, while addition was most frequent in the second. Likewise, repetition ranked third in the first group but dropped to fifth place in the second. Inversion errors had the lowest rate in both groups.

Average / Good Performance Group:

Error order: **Omission – Addition – Repetition – Substitution – Confusion – Inversion**

Below Average / Poor Performance Group:

Error order: **Addition – Omission – Substitution – Confusion – Repetition – Inversion**

Table (5): Shows Reading Speed and Number of Errors among pupils with Average / Good Performance.

Number of Words Read	Number of Errors	Reading Time	Sample	Number of Words Read	Number of Errors	Reading Time	Sample
176	0	1:43	16	176	0	2:03	1
176	3	2:20	71	176	48	2:05	2
176	3	1:46	18	176	12	2:17	3
176	1	2:00	19	176	5	2:02	4
176	9	2:30	20	176	0	2:21	5
176	7	2:03	21	176	10	2:00	6
176	2	2:18	22	176	3	1:39	7
151	30	3<	23	176	2	1:54	8
175	26	3<	24	176	0	1:32	9
176	44	2:39	25	140	6	3<	10
176	23	2:34	26	176	0	1:33	11
176	8	1:58	27	176	57	2:25	12
176	2	1:37	28	128	34	3<	13
176	3	2:19	29	144	23	3<	14
176	11	1:53	30	176	49	2:20	15

From the table, we observe that most individuals in the sample had a normal reading speed, not exceeding three minutes (as per the test guide). However, five individuals exceeded the three-minute mark, though they still managed to read more than 50% of the words in the text.

It is also noted that the shortest recorded reading time was 1 minute and 32 seconds, with zero errors, followed by 1 minute and 33 seconds, and then 1 minute and 37 seconds with two errors. A large number of pupils took around 2 minutes to read the text. The longest time recorded for reading the entire text was 2 minutes and 39 seconds, with a total of 44 errors.

Another key observation is that there appears to be no consistent relationship between reading speed and the number of errors. For example, one pupil read the text in 1 minute and 39 seconds with 3 errors, while another took 2 minutes and 21 seconds and made no errors.

Table (6): Shows Reading Speed and Number of Errors among pupils with Below Average / Poor Performance.

Number of Errors	Number of Words Read in 3 M	Reading Speed	Sample	Number of Errors	Number of Words Read in 3 M	Reading Speed	Sample

14	119	3<	14	38	57	3<	**1**
28	88	3<	15	18	20	3<	**2**
12	117	3<	16	31	86	3<	**3**
45	123	3<	17	18	32	3<	**4**
104	84	3<	18	24	81	3<	**5**
6	6	3<	19	33	161	3<	**6**
115	88	3<	20	34	64	3<	**7**
33	30	3<	21	57	62	3<	**8**
58	113	3<	22	24	78	3<	**9**
61	168	3<	23	59	138	3<	**10**
54	65	3<	24	58	100	3<	**11**
11	168	3<	25	53	46	3<	**12**
				19	132	3<	**13**

From the table, we observe that all individuals in the sample exceeded the three-minute reading time, which is the time limit set to stop the test and record the number of words read within that period.

The lowest recorded number of words read was 6, with 6 errors, while the highest number was 168 words, with 61 errors in one case, and 11 errors in another.

Another observation is that there is no consistent relationship between the number of words read and the number of errors. For example, one pupil read 168 words and made only 11 errors, while another read only 20 words but made 18 errors.

Table (7): Shows the percentage of total errors in relation to the number of words read for both groups.

Average Reading Time	Total Reading Time	Percentage	Number of Errors	Number of Words Read	Sample
2.08M	62.4M	% 8.33	430	5158	Average / Good Performance Group
3M	75M	% 42.86	995	2228	Below Average / Poor Performance Group

Based on the table, we observe that the average to good performance group committed 430 errors out of a total of 5,158 words read, representing a rate of 8.33%, which is relatively low. This indicates that their reading is generally fluent. Some errors may be attributed to lack of focus, hastiness during reading, or insufficient practice with reading long and complex words. In some cases, pupils may prioritize speed over accuracy.

In contrast, the below average to poor performance group committed 995 errors out of a total of 2,228 words read, which corresponds to a rate of 42.86%, a noticeably high percentage. This suggests that this group made a large number of errors, likely due to difficulties and challenges they faced during the reading acquisition process since entering school. These challenges coincided with significant changes in their early schooling years, including the transition to second-generation curricula and the schooling disruptions caused by the pandemic.

Discussion of Results:

In this section, we will discuss the findings presented above. Before doing so, it is important to review some key concepts related to reading, which will serve as a foundation for analyzing and interpreting the results.

At the beginning of reading acquisition, the child has already acquired spoken language. This means that they have learned to pronounce words, having acquired only their spoken (phonological) form. However, the true goal of learning to read is to recognize the visual form of a word or letter and to associate it with its spoken form. To achieve this, the child learns the alphabetic writing system, through which they store visual symbols (letters) and associate them with their corresponding phonological representations.

This system enables the learner to perceive the temporal sequence of the components of a word (i.e., its letters), which is referred to as phonological awareness. According to Melby-Lervåg, Haalas-Lyster, and Hulme (2012), phonological awareness is crucial in the process of reading acquisition.

Reading, therefore, is the ability to recognize the phonological units that make up a word, and the ability to segment them into letters and syllables, as highlighted by Gombert and Collé (2000).

The child, through the development of phonological awareness (i.e., the awareness that a word is composed of sequential sound units with different forms and sounds), becomes capable of translating each letter into its corresponding sound, then combining these sounds and pronouncing the resulting word a process known as decoding or spelling.

Researchers agree that the successful acquisition of reading depends on a range of phonological processes that are part of phonological awareness, in addition to the involvement of phonological (verbal) memory (Sprenger-Charolles & Colé, 2006).

According to the dual-route theory, there are two pathways for processing written words. The first is the direct or lexical route, which involves the use of the addressing strategy, where the word is recognized directly by retrieving its phonological form from memory. This requires prior knowledge of the word, meaning it has been previously processed and stored. The second is the indirect route, known as the assembly strategy, where the unit to be read is broken down and then its components are reassembled. This typically occurs when reading new or unfamiliar words or pseudo-words. The assembly strategy is predominant among beginner readers, while more experienced readers increasingly rely on the direct route, using the addressing strategy for most words they read, and resorting to the assembly strategy when encountering unfamiliar words (Ghellab Saliha, 2020). Reading speed also depends on the quick matching of the word to its stored representation in memory. Therefore, the more the child uses the direct route, the faster their reading becomes (Chare, 2001). However, this may come at the expense of accuracy, as the reader might produce errors either at the word or letter level such as reading a word as another that has a similar or related meaning. In such cases, reading speed remains unaffected, but accuracy is compromised (Lyne Bessette, 2019).

Reading comprehension, or what is known as comprehending the written text, is considered the essence of reading and its primary goal (Ashour Zahra, 2018). Reading comprehension is viewed as the process of extracting and constructing meaning simultaneously through interaction with written language (Snow, 2002). It involves the correct association between symbols and meanings, deriving meaning from context, selecting the appropriate meaning, and organizing the ideas read in order to construct meaning from the text (Younes, 2001).

Since the study sample is divided into two groups:

A. Average / Good Performance Group:

The study showed that the types of reading errors among this group were varied and of differing frequencies, with omission errors being the most prevalent, followed by addition errors, then repetition, substitution, and finally confusion and inversion errors.

Omission errors dominated, which can be attributed to the fact that this group had progressed to a relatively advanced stage of reading comprehension. Pupils had moved from lower to higher levels of understanding, allowing them to visually decode words and grasp both the literal and implicit meaning of the text whether at the word, sentence, or paragraph level—within a limited time (Al-Sawi, 2009). As a result, the pupil tries to connect the meaning of words to the context, which affects the accuracy of pronunciation, often leading to the omission of certain letters. Usually, the mental image of the word is correct, and the error lies in the execution of pronunciation. Most omitted letters were the definite article (al-) and long vowels. From the pupil's perspective, the core structure of the word is preserved even if a letter is missing, with the intention of maintaining fluency and coherence in the flow of ideas. The same applies to addition and substitution errors.

As for repetition errors, they often result from the pupil's effort to connect the words with their meanings and relate them to the text's context. This can lead to reading a word twice or repeating a syllable or more to preserve the temporal sequence of phonological units in words, sentences, and the full text. As noted by Bessette (2019), poor understanding of read words affects both the accuracy and natural speed of reading.

Furthermore, the repetition errors—ranked third in frequency—may also be linked to a sequential, rhythmic reading style, where repetition helps the pupil maintain reading rhythm.

As for inversion and confusion errors, they appeared in low percentages. These generally occurred when the pupil encountered unfamiliar words, focusing on the visual form of the word while neglecting the phonological structure, resulting in letter-order reversals, or pronouncing a word similar in form or meaning to the original—such as sāḥah → sāḥil or mughayyib → maʿbabb. This aligns with the findings of Ouellette & Beers (2010), which indicated that reading new or unfamiliar words takes longer and is often accompanied by reading errors.

B. Below Average / Poor Performance Group:

The study showed that the types of reading errors in this group were also varied, with addition errors ranking first, followed by omission, then substitution, confusion, and finally repetition and inversion errors.

Addition errors were the most dominant, followed by omission errors, which can be attributed to this group's generally low level of academic achievement, particularly in reading. The presence of these reading errors may stem from several factors, including poor mastery of the basics of reading, a non-stimulating social environment, irregular schooling, or reading acquisition difficulties due to psychological disorders, low intelligence quotient, or weakened visual and auditory abilities (Michèle Mazeau, 2020).

As a result, during reading, the pupil often fails to retain the visual form of the word in memory, even after repeated exposure, treating it instead as a new word that must be broken into phonetic segments, reading it syllable by syllable. This contrasts with pupils who use the direct route for word recognition, retrieving the stored visual image of the word from memory (Ghellab Saliha, 2020).

When pupils in this group segment words, their reading is frequently accompanied by errors such as adding one or more non-existent syllables, or omitting one or more syllables, resulting in fragmented, slow, and exhausting reading. These errors may also be due to impairment in the indirect route (assembly route), manifesting as difficulty in recognizing letters and associating the visual form of a word or letter with its spoken form, confusion between similar letters, or reversal of letter order within words.

In such cases, the addition or omission of a letter may reflect a strategy in which the pupil attempts to identify the word by relying on its overall visual shape or its initial letters—for example, reading al-nās as al-insān, or al-ghirbān as al-gharb (Nathalie Dacache, 2024).

The predominance of addition errors among this group may be attributed to the pupil's attempt to read quickly, which affects attention, and consequently disrupts the visual analysis of words in visual memory. This leads to the production of verbal inputs (phonological representations) in phonological memory that are often distorted or incorrect, whether due to omission or addition (LaBerge & Samuels, 1984).

Some studies suggest that substitution and confusion errors result from poor visual discrimination, particularly between letters that are similar in shape or close in articulation (e.g., b, t / s, ṣ), as well as between similar words or synonyms (e.g., sāḥil / sāḥah, manzil / dār). Some pupils may also struggle to identify the first or last sound in a word, or to differentiate between similar phonemes, which negatively affects their recall of letter sounds and their ability to blend sounds into complete words.

Other pupils experience difficulty with the sequential processing of heard syllables, which leads to a reordering of syllables or phonemes—known as reversed reading or inversion. This can also cause them to repeat a syllable or more from a word, or even repeat the whole word, due to difficulty in identifying the next syllable or word. The pupil may rely on repetition as a strategy to maintain fluency, avoid interruptions, and allow enough time to retrieve the next syllable or word from memory (Amina Desh & Radhia Tashma, 2019).

This group also made other varied errors, such as skipping words, inability to read certain words, errors in singular/plural agreement, omission or confusion of conjunctions like wa or fa, neglecting meaning and focusing solely on decoding, and signs of fatigue during reading.

As for reading speed and its relationship to the number and type of errors, it was observed that the first group (average/good performance) generally read at a normal speed, except for a few individuals whose reading time exceeded three minutes, although they made only a few errors. This may be due to the fact that, during reading, the pupil is engaged in cognitive processing to build semantic representations of the words being read, in an attempt to understand their meaning and the meaning of the overall text. This process affects reading speed. As noted by Stéphane Ehrlich (1985), there is a relationship between reading speed and reading comprehension: the more a child possesses the ability to decode and recognize words, the faster they read.

In contrast, all individuals in the second group (below average/poor performance) were unable to read the text in under three minutes. Their reading was slow and inaccurate, which resulted in numerous and varied errors, indicating a clear relationship between slow reading speed and a high error rate. Most pupils in this group could only read a limited number of words in the three-minute period, and very few read them correctly and without errors.

These reading patterns are primarily due to weak phonological processing and an overreliance on lexical (whole-word) processing rather than phonological decoding. In such cases, the pupil takes more time to read and commits a greater number and variety of errors. This was also highlighted by researchers Bonin (2007) and Bowers (1995).

Conclusion:

The ease with which most adults read text often makes us forget that **learning to read is a real challenge for the child**, who must, within a few short months, acquire **multiple forms of knowledge about writing** and carry out **processes** that allow them to convert the **visual images** of information into **meaning**. While the majority of children succeed in achieving **good reading proficiency** thanks to **quick and accurate word recognition**, some children, on the other hand, demonstrate **slow reading** accompanied by **various errors** and **difficulty understanding** what they read.

This highlights the need for **research and studies** that address the topic of reading from **all dimensions**.

In this study, we presented the **various types of reading errors** made by fifth-grade primary pupils, regardless of whether their performance was strong or weak. We **classified these errors** in an attempt to understand the **cause of each type**, as well as to **determine the frequency** of their occurrence to identify the **most common errors**, and explore possible **remedial strategies and preventive measures**.

The study also found a **relationship between reading speed and both the number and type of errors**, indicating that **both groups committed the same types of errors, but at different rates**. An important conclusion is that the **causes of errors differ between the two groups**, suggesting the need for **differentiated pedagogical and remedial interventions** in terms of **duration, effectiveness, and prognosis**.

This compels us to make the following recommendations:

- The necessity of **early detection** of reading difficulties during the learning process.

- The importance of identifying the **type of difficulty** and intervening **before the problem worsens**.

- Teachers must be encouraged to **teach reading effectively**, as language is the **most essential skill** a pupil acquires, reflecting their **cognitive abilities** across **all academic subjects** and their **social and communicative life**.

The study was conducted on a **small sample** of fifth-grade pupils. However, the topic still **requires extensive research**, whether by increasing the sample size, studying **other educational levels** (lower or higher), or by incorporating **additional variables** such as:

- Gender,

- Whether the child attended **preschool or preparatory classes**,

- The **pedagogical approaches** used,

- The **school curriculum**,

- **Teacher gender**,

- Presence of **pre-existing disorders** (academic learning difficulties, language delay, emotional or environmental deprivation),

- The use of **digital boards** and their relationship to reading acquisition,

- ...and other variables that could serve as fields for **future research**.

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