



Studying the level of the phonology awareness among a sample of children with reading learning difficulties (Dyslexia) 10 Case Studies

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Abstract

The Phonological awareness is of great importance in the process of learning how to read so the current research aims to study the level of phonological awareness among children with learning disabilities (dyslexia). The main question in the research is: Does the child with dyslexia suffer from difficulties in the level of phonological awareness? The sample of the study was an intentional sample consisting of 10 children with dyslexia. The phonological awareness test has been applied. The statistical treatment that is appropriate to the research method was used. The two researchers used the descriptive method based on the case study. The research concluded that the hypotheses were validated, indicating the validity of the theoretical theory they had constructed. The conclusions reached in the light of previous studies and the theoretical side were discussed and the study concluded with some suggestions.

Keywords: The Phonological awareness –reading disorder (dyslexia)-learning disabilities- Rhythm

إن الوعي الفونولوجي ذو أهمية كبيرة في عملية تعلم القراءة، لذا يهدف البحث الحالي إلى دراسة مستوى الوعي الفونولوجي لدى الأطفال ذوي صعوبات تعلم القراءة (الديسليكسيا). وتمثل التساؤل الرئيسي في البحث في: هل يعاني الطفل المعسر قرائياً من صعوبات في مستوى الوعي الفونولوجي. وكانت عينة الدراسة عينة قصدية مكونة من 10 أطفال معسرين قرائياً. وقد تم تطبيق اختبار الوعي الفونولوجي وتمت المعالجة الاحصائية التي تتناسب ومنهج البحث، فقد استعملت الباحثتان المنهج الوصفي المعتمد على دراسة الحالة. وتوصل البحث الى التأكد من تحقق الفروض مما دل على صحة التصور النظري الذي قاما عليه. وقد نوقشت النتائج المتوصل إليها في ضوء الدراسات السابقة والجانب النظري واختتم البحث ببعض المقترحات.

الكلمات المفتاحية: الوعي الفونولوجي- عسر القراءة (ديسليكسيا)- صعوبات التعلم- النغمة.

1-The Problem

Reading is one of the basic skills. It affects other aspects of life and is not limited to educational institutions or even outside them. And the acquisition of this skill passes through several stages, involving several factors according to the conditions and the characteristics of overlapping, and complex processes, starting from childhood, which is one of the most important stages of growth because it affects the future life of the individual, and which is the development of sensory and mental, emotional, academic, and social.

Among the processes that underlie reading: memory, thinking, attention, intelligence. On the other hand, sensory kinetics, linear awareness and phonological awareness are all important axes of reading. In this context, many studies have been concerned with methaphonological abilities, such as the awareness of sections, the words that disappear, the end of the word, and the removal of sections in each case, such as removing the initial section or removing the final section. Difficulties observed at the level of phonological awareness are among the most important determinants of reading-learning disorder, while at the same time emphasizing their close association with learning to read.

Based on the results of the previous studies, the researchers wanted to ascertain whether the child's dyslexia was due to a disorder in the

phonological consciousness. On this basis, we asked the following basic question: Does the child suffering from dyslexia suffer from difficulties in the level of phonological awareness?

The following partial questions arise from this question:

- Does the child with dyslexia find difficulties at the rhythm level?
- Does the child with dyslexia find difficulties in keeping the sentences?
- Does the child with dyslexia find difficulties in awareness of the phonemes?
- Does the child with dyslexia find difficulties at the level of removing the section?

2- Hypotheses

-General Hypothesis

The child suffering from dyslexia suffers from difficulties in the level of phonological awareness.

- Partial Hypotheses

A - The child with dyslexia finds difficulties at the rhythm level.

B - The child with dyslexia finds difficulties in the retention of sentences.

C - The child with dyslexia finds difficulties in awareness of the phonemes.

D - The child with dyslexia finds difficulties at the level of removal of the section.

3-Concepts

A - Dyslexia

- Theoretical definition: Disruption of the ability to read what is read aloud or silence or understanding, and this failure is not related to any defect in pronunciation¹.

- Procedural definition: is a defect or disorder or lack of reading learning reveals the number and quality of errors during reading.

B- Concept of phonological awareness

- **Theoretical definition:** It is the ability of individuals to distinguish between different components of speech and awareness of parts in different dimensions and dealing with phonological units is not innate or spontaneous, but shows with learning to read and grow in an interactive form with it².

- **Procedural definition:** The degree to which the child is able to test the phonological awareness of YaminaLwani.

4- The research importance

A –Theoretical importance

- Reading from the most important acquisition that enables the child to academic achievement and development of its linguistic balance.
- Phonological awareness of the basic abilities that interfere with the acquisition of reading in the child.
- Dyslexia is one of the language disorders written in the child, the most prevalent in the school, which often lead to failure and school failure.

B. The application importance

- Address the phonological awareness of the dyslexia.
- Lack of studies that study the assessment of phonological awareness among primary school children and reading disorders in Arabic.
- Trying to find successful and scientific techniques to be used in the early assessment and detection of this kind of disorder in this kind of children in the Algerian environment and therefore early sponsorship.

5-Aims of the research

The research aims to study the level of phonological awareness among children with learning disabilities (dyslexia) and find out the difficulties that are related to dyslexia (the rhythm level, keeping the sentences, awareness of the phonemes, and removing the section).

6- Previous studies

The subject of this study concerns the difficulty or disruption of the phonological awareness of dyslexia. In this context, we found a group of studies that examined the reading difficulties and phonological awareness, the most important of which are:

1-**Lowany Yemina study**, entitled: The relationship of phonological awareness to reading disorders. the researcher aimed at identifying the relationship between the phonological awareness and dyslexia. The researcher assumed that there is a strong correlation between phonological awareness and learning disabilities. By testing the phonological awareness, the following results were obtained: The individuals with dyslexia have little or no success, and this is actually a reflection of their difficulty with phonological awareness, unlike ordinary children of the same school year where they have shown great success³.

2-**Monique plaza study**: For 3 years, the researcher has followed the case of a child suffering from severe developmental dyslexia. In 8 years and 9

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months, the child read only a few words that stored her general forms. Her great deficit was pre-phonological abilities. To test the mechanisms of reading at this child the researcher examined the abilities related to the links (voice - voice) as well as its ability to read the words are not real. The researcher concluded that despite the first phonological deficit of this girl, she was able to learn to read some words in the first year using optical method.

3-(S. Casalis&Sprenger, Charolles) :the researchers studied how to recognize words in children with developmental dyslexia based on classical models that distinguish between two strategies: the phonological mediation strategy and the lexical strategy. The purpose of the study was to evaluate these two hypotheses by examining the method of phonological mediation and spelling in children with reading difficulties of two different levels. They found that children with dyslexia are as affected as ordinary children by these links, but the results indicate that troubled children generally have a system to convert letters to sounds, but this system is less effective than that of ordinary children. The results also showed significant differences between the sample of children who are disturbed and normal with regard to the work of the spelling method, as this method appears to work differently in children with dyslexia. The study found that children with dyslexia, as indicated by the results, suffer from a large deficit in the method of phonological mediation. The results showed a wide disparity between the abilities of these children and the abilities of ordinary children and the researchers found discrepancies within the sample of those children with reading difficulties Emphasizes the existence of not one form but forms of dyslexia⁴.

Comment on previous studies

With regard to the study of the researcher LuaniYemina: it was credited with adapting the test of phonological awareness, in which it proved that the phonological abilities can be distinguished as a good reference for the acquisition of reading.

In the study of both Sprenger .Charolles and S. casalis, the results show a variation within the sample of these children with reading difficulties, which confirms the existence of not one form but forms of dyslexia.

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As for the study of the researcher (Plaza), the child's use of the visual method of reading the words corresponds to the logographic method, and is the first stage in learning to read, that is, stored only its forms and did not use the lexical method, which requires a higher level of treatment.

7- Survey study

- Objectives of the survey

A - Learn how to choose the study sample for the application of study tools.

B - Ensure the appropriateness of the data collection tools selected for the study, by verifying their psychometric properties.

- Results of the survey

One of the most important results of the exploratory study was the possibility of adopting the scale mentioned above because it has the psychometric characteristics (reliability and stability) to be used, and the following is a detailed presentation of the characteristics of the tool:

Sociometrist characteristics of the measurements used in the study

The researchers used the phonological awareness scale in this study to collect the data we need on the field side and in order to verify its validity before using it, we verified its psychometric properties of honesty and persistence.

a) Phonological awareness scale

To verify the validity and stability of the phonological awareness scale, we applied the scale to a sample of 30 individuals. We used both the method of internal consistency in estimating the stability and the truth.

- Stability through internal consistency

Table (1)
shows the value of Alpha Kronbach

The measurement	Number of sample	Alpha Kronbach value
The phonological awareness	30	0.67

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Table (1) shows that the value of alpha kronbach was estimated at 0.67, a very acceptable value, from which it can be said that the measure of phonological awareness is acceptable and can be used in this study.

Table (2)

The value of "t" shows the tests of the difference between the upper and lower groups

groups	Number of sample	Medium Average	Free degree	T-Test value	Significant level
Higher	90	37.8889	16	5.15	0.01
Lower	90	29.2727			

Table (2) shows that the value of "T" was statistically significant at the level of (0.01). This means that there is a difference between the upper group and the lowest group in their grades. This means that the phonological awareness scale has the ability to distinguish between individuals in terms of their degrees, from which it can be said that the measure has an acceptable degree of honesty can be used in this study.

This corresponds to the study of the researcher LowanyYemina (2007), where the scale applied to (30) cases intended to adapt the scale of phonological awareness according to the Algerian environment has verified the truthfulness and persistence on a pre-experimental sample after adjusting their variables through the clinical approach⁵.

And if we go back to talk about the conditions of validity or validity of the test was considered by the researcher Saad Abdul Rahman in his book entitled (psychological measurement) as follows:

- The test should be able to measure what has been measured and this is what we have reached.
- The test should be able to measure what is measured only, and indeed the test is able to distinguish between the ability measured (phonological awareness) and other capabilities that are likely to mix and overlap with it.

8- Basic study

- **Methodology:**the researchers used the descriptive approach, which depends on the method of case study.

Study group:they studied 10 children who were visually impaired and were selected according to the following criteria:

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- Age ranges from 8 years to 10 years and 2 months.
- The level of study and reading is low; this is based on the points obtained in the first semester, and even for the general rate and assessment of the parameter for reading test.
- diagnosed by a specialist Artphonia that they suffer from dyslexia.

- Study Tools

- **Phonological awareness test:** a test adapted by the researcher "LowanyYamina" in the framework of a Master of Psychology and Linguistic Psychology in the Department of Psychology and Artphonia in 2006.

It contains the following items:

A - Rhythm: where it aims to introduce the phonological memory.

B - Retention of sentences: aims at the use of short-term memory.

C - Phonological awareness: contains 4 sub-items:

- Ruling on rhymes: focus attention on the rhythm, syllables and sounds.

- Word that hides: Search on the word that corresponds to the end of the rhyme with the proposed word.

- Rhyme with the word function: test the word function that hides with the word function using audio perception and short-term memory.

- Same word end: Choose words that end with the same silent comparison with the keyword.

Removing the Section: Begin by removing the initial and final section. It contains two sub-items:

- The initial section.

- The final section.

- In terms of applying the scale:

A - Keep rhythms: using a pen we are under the table, by hiding our hands when the application of the piece to remove any optical carrier can be helpful to the child, and thus we have observed the educational understanding by giving two examples. Time: 3 m.

B - Retention of sentences: Here we offer the child two sentences divided, each of them into 7 sets of words. I say the sentence and then the child repeats it. Time: 1 m.

C. Phonological awareness:

- Ruling on rhymes: the researchers propose to the child in these item six (6) regiments of words in their specificity (according to the rules of the

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Arabic language). Then ask the child to give us the words that end with, for example. Time: 60 sec.

- The word that hides: The item on the child should look at the linguistic balance on the word correspond to the rhyme hand with the proposed word. Time: 65 sec.

- rhyme with a word: we suggest to the child here three groups, each of which includes a word destination in addition to 4 words, as each of them hides with the intended word, and sometimes some of them and the child to choose from among these four words the word that hides. Time: 60 sec.

- The end of the keyword: We suggest three sets of children, each with a target word and four suggestions, among which the child chooses the word or words that end with the same silent word as the first word. Time: 45 sec.

D - Remove the section: Give the child a word, and ask him to remove the original clip time and time the final section. Time 60 sec.

• In terms of correcting the scale:

A - Keep rhythms: Give one point for each correct rhythmic structure, and we get the full point and estimated at 21 points.

B - Keep the sentences: Give the child one point for each structure produced well, so we get 7 points in total for each sentence, and thus we reach 14 points in the total.

C. Phonological awareness:

- Ruling on rhymes: Give it one point on each correct answer of (3/1) and total 9.

- The word that hides: Give the child one point if he succeed in finding the word, out of three (3) points (1/3) and estimated total 3/3.

- Rhyme with a word: we give a point for each correct answer (which gives a point on 3)

- The same end of the word function: we give a point for each correct answer (which gives a point on 3) and a total of 3/3.

D - Remove section: Give a point of 3 for each correct answer (initial section), and give a point of 3 for each correct answer (final section).

9- Results

In applying the phonological awareness test, we found the following results: For the multiplicity of tables, we only present the results of five cases

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Table (3)

shows the first case scores in the phonological awareness test

Items	Rhythm	Keep sentences	The phonological awareness				Removing the section	
			ruling of rhythms	The rhythm word	Rhyme with a word	The same end of the	Beginning section	Final section
marks	28.75%	42.85%	33.33%	33.33%	0	0	0	33.33%

By applying the phonological awareness test, which consists of four main items and some sub-items, the first case of 'Eman' obtained the following results: For the rhythm item, the rate of (28.57%) was obtained, (42.85%). The phonological awareness item, which consists of four sub-items, obtained 33.33% in the rule of rhymes, 33.33% in the word, then 0 in rhyme with a word, (0) for the same end of the keyword. As for the removal of the section and divided into two sub-sections: the initial section recorded (0), and the final section obtained the rate (33.33%).

Table (4)

shows the scores of the second case in the phonological awareness test

Items	Rhythm	Keep sentences	The phonological awareness				Removing the section	
			ruling of rhythms	The rhythm word	Rhyme with a word	The same end of the	Beginning section	Final section
marks	23.80%	42.85%	66.66%	33.33%	33.33%	0	33.33%	66.66%

By applying the phonological awareness test, which consists of four main items and some sub-items, the second case, which is the 'null', obtained the following results: For the rhythm item, the rate of (23.80%)

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was obtained, 42.85%). The phonological awareness item, which consists of four sub-items, obtained 66.66% of the rule of rhymes, 33.33% of the word, and 33.33% of rhyme with a word, As well as (0) for the same end of the keyword.As for the removal of the section and divided into two sub-sections: the initial section and recorded (33.33%), and the final section obtained the rate (66.66%).

Table (5)

shows the scores of the third case in the phonological awareness test

Items	Rhythm	Keep sentences	The phonological awareness				Removing the section	
			ruling of rhythms	The rhythm word	Rhyme with a word	The same end of the word	Beginning section	Final section
marks	38.09%	42.85%	0	0	33.33%	33.33%	33.33%	33.33%

By applying the phonological awareness test, which consists of four main items and some sub-items, the third case, Mohammed, obtained the following results: For the rhythm item, the rate was 38.09% 42.85%). The phonological awareness item, which consists of four sub-items, obtained a percentage of (0) in the sentence rule on rhymes, then (0) in the word item that disappears, 33.33% in rhyme with a word, 33.33%) for the same end of the keyword.As for the removal of the section and divided into two sub-sections: the initial section and recorded (33.33%), and the final section obtained the rate (33.33%).

Table (6)

shows the grades of the fourth case in the phonological awareness test

Items	Rhythm	Keep sentences	The phonological awareness				Removing the section	
			ruling of rhythms	The rhythm word	Rhyme with a word	The same end of the word	Beginning section	Final section
marks	19.04%	28.57%	33.33%	33.33%	0	33.33%	33.33%	33.33%

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By applying the phonological awareness test consisting of four main items and some sub-items, the fourth case of 'Amen' obtained the following results: For the rhythm item, the rate was obtained (19.04%). 28.33%). The phonological awareness item, which consists of four sub-items, obtained (33.33%) in the rule on rhymes, 33.33% in the word , then 0 in rhyme with a word, (33.33%) for the same end of the keyword.As for the removal of the section and divided into two sub-sections: the initial section was recorded (33.33%), and the final section obtained the rate (33.33%).

Table (7)

shows the fifth grade scores in the phonological awareness test

Items	Rhythm	Keep sentences	The phonological awareness				Removing the section	
			ruling of rhythms	The rhythm word	Rhyme with a word	The same end of the	Beginning section	Final section
marks	28.75%	14.28%	0	0	33.33%	0	33.33%	0

By applying the phonological awareness test, which consists of four main items and some sub-items, the fifth case, Rabah, obtained the following results: For the rhythm item, the rate was 28.57% 14.28%). The phonological awareness item, which consists of four sub-items, obtained a percentage of (0) in the sentence rule on rhymes, then (0) in the word item that disappears, then 33.33% in rhyme with a word, 0) for the same end of the keyword.As for the removal of the section and divided into two sub-sections: the initial section and recorded (33.33%), and the final section obtained the rate (0).

10-Analysis and discussion of the results

A - Quantitative analysis

• General Hypothesis

The general hypothesis of this study is that: "The degree of phonological awareness is low among those who are dyslexic in reading." After the statistical treatment, the following conclusion was reached:

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Table (8)

Discuss the general hypothesis statistically

Different between the median average of the sample and the expected median of the phonological awareness measurement								
Total score	Number of sample	The median average	Standard deviation	Different between the median average of the sample and the expected median	The expected median of the measure 21.5			The decision
					T	Free degree	Significant level	
The phonological awareness	10	12.55	2.543	- 8.950	-11.12	9	0.000	0.01

The results indicated in the above table (08) indicate that, based on the mean of the sample of the sample of the study on the level of phonological awareness, which is (12.55) that is below the mean average imposed by this measure and estimated (21.5) This is confirmed by the value of "T" for the sample (11.12-), which is a negative value "that is, the differences in favor of the satisfactory average" and a statistically significant function at the level of significance ($0.01 = \alpha$). The hypothesis of the research that the child Coronary dyslexia suffers from difficulties at the level of phonological awareness, and the proportion of confirmation of these results It is 99% with a potential error of 1%.

• The first partial hypothesis

The first partial hypothesis of this study states that: "The child with dyslexia finds difficulties at the level of rhythm." After the statistical treatment, the following conclusion was reached:

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Table (9)

Discussion of the first partial hypothesis

Different between the median average of the sample and the expected median of the rhythm item								
Total score	Number of sample	The median average	Standard deviation	Different between the median average of the sample and the expected median	The expected median of the item 10.5			
					T	Free degree	Significant level	decision
The rhythm	10	5.30	2.263	- 5.20	- 7.26 6	9	0.000	0.01

The results indicated in the above table (09) indicate that according to the average of the sample of the sample of the study on the rhythm item (5.30), it is lower than the accepted average imposed by this measure (5.20). This is confirmed by the value of "T" for the single sample which amounted to (7.266-), which is a negative value "ie, the differences in favor of the satisfactory average" and a statistical function at the level of significance ($0.01 = \alpha$), from which the hypothesis was accepted that the child Coronary dyslexia suffers from difficulties at the rhythm level, and the percentage of confirmation of this result is 99% with the probability of aloe A 1% error.

• The second partial hypothesis

The second partial hypothesis of this study states that: "The child with dyslexia finds difficulties in the retention of sentences. After the statistical treatment, the following conclusion was reached:

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Table (10)

Discuss the second partial hypothesis statistically

Different between the median average of the sample and the expected median of keeping sentences item								
Total score	Number of sample	The median average	Standard deviation	Different between the median average of the sample and the expected median	The expected median of the item 3.5			
					T	Free degree	Significant level	Decision
keeping sentences	10	2.100	0.87	- 1.40	-5.056	9	0.01	0.01

The results indicated in the above table (10) indicate that, based on the average of the sample of the study sample on the item of retention of sentences (2.100), it is lower than the average required by this scale estimated at (1.40-). This is confirmed by the value of "T" for the single sample which is (5.056) - a negative value "ie, the differences in favor of the satisfactory average" and a statistical function at the level of significance ($0.01 = \alpha$). The child with dyslexia suffers from difficulties at the level of holding the sentences, and the percentage of confirmation of this result and 99% with the possibility of falling into error by 1%.

• Thethird partial hypothesis

The third partial hypothesis of this study states that: "The child with dyslexia finds difficulties in the level of awareness of the phonemes." After the statistical treatment, the following conclusion was reached:

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Table (11)

Discussion of the third partial hypothesis

Different between the median average of the sample and the expected median of the phonological awareness measurement								
Total score	Number of sample	The median average	Standard deviation	Different between the median average of the sample and the expected median	The expected median of the measurement			
					T	Free degree	Significant t level	decision
The phonological	10	4.40	1.173	- 1.60	-4.311	9	0.02	0.01

The results indicated in the above table (11) indicate that, based on the mean of the sample of the sample of the study on the level of phonological awareness, which is (4.40) that is below the mean average imposed by this scale and estimated at (-160) This is confirmed by the value of "T" for the single sample, which is (4.111), which is a negative value "that is, the differences in favor of the satisfactory average" and a statistical function at the level of significance ($0.01 = \alpha$), from which the hypothesis of research was accepted that The child with dyslexia suffers from difficulties at the level of awareness of the phonemes, and the percentage of confirmation of this net JH is 99% with the possibility of falling into error by 1%.

• The fourth partial hypothesis

The fourth partial hypothesis of this study states that: "The child with dyslexia finds difficulties at the level of removal of the section." After the statistical treatment, the following conclusion was reached:

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Table (12)

Discussion of the fourth partial hypothesis statistically

Different between the median average of the sample and the expected median of removing section item								
Total score	Number of sample	The median average	Standard deviation	Different between the median average of the sample and the expected median	The expected median of the measurement 21.5			
					T	Free degree	Significant level	decision
removing section	10	0.750	0.263	- 7.50	-9.00	9	0.000	0.01

The results indicated in the above table (10) indicate that, based on the average of the sample of the sample of the sample on the section removal section, which is (0.750), it is lower than the estimated average imposed by this scale, estimated at (7,500) This is confirmed by the value of "T" for the single sample which amounted to (9.00-), which is a negative value "that is, the differences in favor of the satisfactory average" and a statistical function at the level of significance ($0.01 = \alpha$), from which the hypothesis of research was accepted that The child with dyslexia suffers from difficulties at the level of removal of the section, and the percentage of confirmation of this result is 99% m The probability of error is 1%.

B) Qualitative analysis

By analyzing the results of the phonological awareness test consisting of 4 main items and 6 sub-items, we obtained the following results:

1- Discussion of the first partial hypothesis (retention of rhythm):

Because these children have a reading-level disorder, they have a memory disorder.

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This test item depends largely on memory (memory) and requires attention and concentration. This explains the low results you have obtained.

We note that the difficulty has been demonstrated significantly at the level of chains located in the middle and the last test, as the first strings of the test is very short.

The results confirmed that these children have difficulties in the memory level did not enable them to keep rhythms and reproduce correctly.

The highest rate (38.09%) was the "third case", a result below average. The lowest rate was (9.52%) the "ninth case" which is very low.

The remaining cases between these two rates are very weak results and these results correspond to the results of the study of researcher LwaniYamina with this study where the results obtained in this item equivalent to (46.03%).

So the student must have the ability to collect words, and sequence to be a unit of thought.

And the student's acquisition of the basic skills of reading, paving the way for him to absorb what he reads, and understands a sound understanding that has a positive impact in the development of personality and refined, because it reads and understands what reads and reaches through his correct reading to the ideas that the writer wants to convey to him⁶. Also, these children often have short-term memory problems⁷.

2 - Discuss the second partial hypothesis (Retention)

These children showed difficulties with the retention of sentences, in addition to not being able to retrieve the two sentences correctly and this is due to the weakness of memory, some of them give words do not belong to the proposed sentences, while others have been deleted and reversed words.

Without forgetting the frequent (blocage) phenomenon at the beginning, middle and end of each sentence.

The results obtained were weak except for the second and third cases, with 42.85% as the highest rate, although they stopped slightly.

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The lowest rate was (14.28%) and the rest ranged between 14.28% and 57.14%.

This is consistent with several studies in this field, most notably the study of pierrelecoq, which shows that there is a close relationship between performance in reading, memory and phonological awareness.

On the one hand, and on the other hand, the cognitive processes necessary to learn to read the child as we have seen is the ability to remember, thinking, attention and visual synergy kinetic⁸.

3- Discussion of the third partial hypothesis (awareness of the phonemes)

The results differed from one case to another and this was primarily due to the degree of difficulty that each child represented in the ability to learn to read.

- In sub-item I: Ruling on rhymes

The results were as follows:

In most cases, the results were nonexistent, two cases (33.33%), and two cases (66.66%).

And these results are weak and here we note that the children did not make use of their hearing, not even memory, not even focus and attention and are cognitive processes necessary to learn to read⁹.

This is also consistent with the study conducted by Hatcher (Ellme, Ellis, 1994) to confirm the work of Bradley (Bryan), who developed an intensive pedagogical program for children with dyslexia, aged between 7 years, divided into 40. Each session had 20 minutes of 20-week training, and the applications were all around sections, rhymes and silos and focused on reading and writing.

- Sub-item II: The word that hides

The researchers noticed the same thing that the results were very weak .

Most of the cases were non-existent, two cases were 33.33%, and the results are consistent with the study of Bryan (Bradley) in 1983 showing the performance of 400 children with visual impairments aged 4 to 5 years subject to the tests of reading and phonological awareness, Rhyme. He followed them after four years in reading and comparing them with ordinary children.

Sub-item III: rhyme with a word function

In this item, we recorded results. If not, it is very weak. The maximum rate estimated at (33.33%) was obtained by 4 cases. In other cases, the result was zero.

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The researchers have recorded a very slow and far-fetched understanding, as confirmed by the study of the researchers (Goswami, Bryant) and that children with difficulties in the level of phonological awareness are unable to extract part of the representations rhyme words and not aware of the awareness of the section.

Sub-item IV: Same word end:

The results were weak, with 5 cases (33.33%), and the remaining cases were no.

Here, the researchers note that the results obtained differed in this section of the test or even in another department. This is mainly due to the individual differences factor. Each child in the sample represents difficulties in the level of phonological awareness that differ from those of another child. And reflect the difficulties of these children in this type of performance. If we return to the analysis item by item we notice that the difficulty was shown at the level of rule on the rhymes, the word that hides, rhyme with a word, the same end of the word function, which confirms the consciousness of a disturbed, if not nonviolent. This confirms our third partial hypothesis that dyslexia refers to a disturbance in phonological awareness.

4- Discussion of the fourth partial hypothesis (remove section)

With regard to the section removal section, we recorded results that are not different from the previous one, even though each case presented a somewhat different answer to another. Here the researchers point out that the most difficult was to remove the final section where the majority of cases obtained a result of none (0). Even in the primitive section, the same result was found, with the majority unable to answer.

Here, working memory plays an important role in calling the phonology disorder of a syllable, cutting rules, etc. (as it was pointed before).

Which confirms the fourth partial hypothesis that there is difficulty at the level of removal of the section, which agrees (kolinsky), which suggests that the hypothesis that the phonological representations of the readers of the troubled will be less cut (moins segmental) compared to what is in the ordinary readers make the awareness of the more difficult (3). Similarly, casalis in 1987 suggest that phonemic boundaries may be more ambiguous in children with learning disabilities.

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- Discussion of the general hypothesis:

The phonological awareness as a whole requires:

- Child acquisition of the mechanization of word recognition within the word chain.
- Evolution of voice awareness (ability to deal with phonemic units of speech).
- Lack of difficulty at the level of cognitive functions (especially working memory).
- The actual and complete acquisition of phonological awareness because the disruption of this ability will inevitably lead to reading disorder.

The results obtained through the application of the test in all its items on the sample of dyslexic readers, we reached the absence of all these points and therefore we made sure the hypothesis of the study and that the learning disorder reading mainly due to a disorder in the consciousness of the phonological.

It is the same conclusion reached by many studies, we recall, for example, Oana Yamina, which concluded that dyslexia refer primarily to an imbalance in phonological awareness study.

Pierre Lecoq also found that there is a strong correlation between reading performance and phonological awareness in children.

The same results were obtained by researchers such as Allegeria and Moriais in 1979, Bryan and Bradley in 1983, Liberman and Coll in 1985, and Combert in 1998 when studying the interactions between phonological awareness And the ability to read¹⁰.

11- General Conclusion

If reading is so important because it is the basis of school acquisitions, phonological awareness at all levels (rhythm, rhyme, section, section removal, key word, retention of sentences, removal of the final section and removal of the initial section) is the basic phonological awareness through which Child reading and writing, since the division of sentences into words and sections and the division of sections into phonemes and toning are all indicators of the child's control of the vocal field of the language.

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Given the significant role played by phonological awareness in the reading process, based on data from previous studies, which linked phonological awareness and reading, statistically confirmed results were the same as those of several European researchers (Lumberg and Adams) (8). As well as Bryant et Bradley (1983), which reconstructed a relationship that showed the performance of 400 children with visual impairments, ranging in age from (40) to (50) years, subjecting them to phonological reading and awareness, especially at the rhyme level.

While the studies of Hatcher, Hulme and Ellis in 1994 confirm Bradley and Bryant for having developed an intensive pedagogical program for children with dyslexia, aged between (07) years divided into (40) 20 minutes of training (20) weeks. The applications were all about sections, rhymes and silos as well as focusing on reading and writing. In the next study, we looked at whether dyslexia was due to a deficit in the phonological awareness of dyslexia, which ranged in age from 8 to 10 years and 2 months.

The results obtained through the phonological awareness test show that there is difficulty in the level of phonological awareness, translated by the percentages obtained by the visually impaired sample. As for the first item, which includes the rhythm, it was found that the disabled children obtained weak results ranging from 38.09% to the maximum rate and 9.52% as the lowest.

In terms of retention of sentences, the results were weak. The highest rate was (42.85%) and the lowest rate was (14.28%).

As for the consciousness of the phonemes, which is divided into four branches (rule on rhymes, the word that hides, rhyme with a word, and the same end of the word).

The dyslexic readers may have very poor results in terms of rhyme recognition and therefore difficulties in phonological awareness.

The growth of rhyme as we mentioned above does not require learning at school but is acquired through spontaneous verbal exercises and linguistic experiments.

At the end of the word, there is a disturbance in reading learning in dyslexia, where it is shown by the weak ratios, which were estimated at (33.33) as the maximum and (0%) as the lowest estimate of any non-existent result.

As for the same end of the word, the sample obtained the same result with the word item, which explains that rhyme production requires

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the child to understand the nature of the words and to be able to produce a word by combining the parts of words, Fragmentation of phonemes and the child's ability to divide it into separate words).

The passage by Lumberg, which sees the section as a structure of phonology, consists of simple sounds to form a single word. Here the children are dyslexic and have difficulty removing the section, especially at the level of the final section, whose results (33.33 %) 0 comments.

The researchers, Goswami and Bryant, confirm that children with difficulties in phonological awareness are unable to extract part of the symmetry in word rhyme or in the perception of the CT. According to Adams in 1990, His understanding of sounds, the phonological awareness for him is an understanding of the different methods by which the fragmentation of the language into smaller components, and to smaller units of voice, and dealing with it and here we can say that children with dyslexia who suffer from difficulties at the level of phonological awareness, lie in their inability to recognize that the word consists of voices, and that their ability depends on the fragmentation of the word according to these sounds and dealing with them.

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