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**Investigating the Issue of Dyslexic Pupils in the Algerian Classroom**

Case study: Second Year Middle School Pupils in Aneur Aneur Abdelkader, Relizane.

Dissertation submitted in the fulfillment of the requirements for Master Degree in Linguistics

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## **DEDICATION**

To my beloved parents, the reason why I am and who I am now,

To my brothers and sisters, especially Zakaria and Amina,

To you, my precious classmate,

Thank you for your everlasting love, motivation and encouragement throughout my research.

You were of great help to me without you knowing and most importantly, to the reason that was the bridge through which I faced many difficulties successfully, all the praise to Allah for being by my side.

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## ABSTRACT

The present work aims at investigating the issue of dyslexic pupils in the Algerian classroom. The main question that is raised in this research is whether teachers are aware of their pupils' language disorders, mainly, dyslexia. The problematic at hand seeks to find out whether teachers are trained to identify and cope with dyslexia in pupils. In order to answer this research question, the requirement of the present investigation urged the employment of a triangular approach which is the mixed-method. A structured interview directed to different speech therapists from Relizane was conducted as a data collection tool that was directed to speech therapists from Relizane. Questionnaires were also delivered to middle school teachers. Moreover, an observation coupled with an experiment of verbal behavior were also conducted in the classroom. The targeted participants are teachers from Ameur Ameur Abdelkader middle school in Relizane, and two groups of informants containing respectively 24 and 25 pupils. The whole experiment was based on Skinner's linguistic approach which is the verbal behavior approach. The findings of this research proved that applying Skinner's reinforcement theory of motivation in the classroom can be effective to dyslexic pupils. However, teachers are not fully aware of their pupils' language disorder neither do they adjust and evaluate their teaching method with them because they are not trained enough to identify the issue on their pupils.

*Keywords:* Dyslexia, Language Disorder, Reading and Writing Difficulties Algerian Middle School Classroom, Skinner's Reinforcement Theory of Motivation.



## LIST OF ACRONYMS

**ABC:** Antecedent, Behavior and Consequence

**ADD:** Attention Deficit Disorder

**ADHD:** Attention Deficit Hyperactivity Disorder

**APD:** Auditory Processing Disorder

**ASD:** Autism Spectrum Disorder

**CAPD:** Central Auditory Processing Disorder

**PPD:** Phonological Processing Disorder

**SLD:** Specific Learning Disorder

**SLP:** Speech-Language Pathologist

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## General Introduction

Reading proficiency has profoundly affected people's daily life for it is hard to imagine them unable to read in this modern society. It is considered to be one of the essential ways to obtain and provide information while interacting. Mastering such an operation needs numerous skills to effectively achieve it.

Teaching and learning are considered to be crucial in people's daily life for they represent the doorway through which self-education is attained. However, such process is, indeed, complicated for it does not seem to be simple as it is. Teachers, seemingly, face some noticeable struggles when teaching their students even if the setting is prepared in according with the needed requirements. Therefore, many theories and approaches have been developed by scholars in order to address the obstacles that both teachers and learners face in their educational journey including psycholinguistics impediments.

One of the most serious mental disorders pupils face when learning is Dyslexia. It is a learning disorder that is manifested as a difficulty in reading and spelling. In the Algerian context, some teachers tend to focus on the performance of the pupil rather than taking into account the psychological aspect and, therefore, pupils may feel demotivated especially those suffering from a learning disability. A teacher with little knowledge about such matter may find it hard to diagnose a dyslexic pupil. As a result, they may take the student to be uncompetitive and moronic and, therefore, the teacher may reduce their efforts to assist them while they could change the teaching technique.

It is believed that positive reinforcement can be of great help in boosting dyslexic pupils' confidence, as well as enhancing their reading disability. It

heightens the level of enthusiasm in the classroom for both teachers and students.

When

a

dyslexic pupil, for example, succeeds in reading a particular sentence, the teacher can reward them with positive feedback or, perhaps, with a small gift such as “sweets”. This can lead to a noticeable motivation, as well as provide the pupil extra energy to do more.

Significance of this research is that there are many dyslexic pupils who tend to hide their disability owing to the idea of being judged. Such pupils tend to face many behavioral problems caused by the dreadfulness from their final results as well as their teachers’ reaction when they make errors. Sometimes, teachers tend to neglect such pupils for they consider them as weak.

The research aims at investigating whether positive reinforcement can or cannot help dyslexic students in improving their reading and spelling performance by adopting Skinner’s verbal behavior. Through this process, a careful observation about the issue of dyslexic pupils is conducted in the classroom.

The main objective of this study is to examine the effectiveness of positive reinforcement in ameliorating the dyslexic pupil’s reading and spelling performance. To accomplish this, the research attempts to answer three main questions;

- Are teachers trained enough to identify dyslexia in their pupils?
- Are parents aware of their child’s issue?
- Can Skinner’s reinforcement theory of motivation affect the reading and writing performances of dyslexic pupils?

The drawn hypotheses for these research questions are stated as follows:

- Teachers are not trained enough to identify dyslexic pupils because they are not familiar with language disorders, mainly, dyslexia.

- Parents are not aware of their child's issue.
- Skinner's reinforcement theory of motivation can successfully improve both reading and spelling performances of dyslexic pupils.

In order to test these hypotheses, four tools of research are relied on. The first one is a systematic observation to apply in the classroom in order to see how teachers interact with their dyslexic pupils and also how their peers behave with them. The second tool is a questionnaire that will be submitted to teachers order to see whether they are aware of such a disability or not. In addition to an interview with speech therapists that is conducted in order to find out whether they receive cases from teachers and parents or not, and last but not least, an experiment of Skinner's verbal behavior is applied in the classroom aiming to improve their writing and reading performance.

The research is divided into three main chapters that cover the theoretical framework, the methodological one as well as results and discussions of the research. The first chapter tackles the literature review of Dyslexia and Skinner's Theory of Positive Reinforcement besides other specific related parts to the subject matter. The second chapter tackles the practical part; a careful operation of analyzing the participants and the tools used to contribute to the research realization accompanied with analyzing the findings that are the results of the tools used to conduct the research work. The third chapter is concerned with discussing the findings attained and, too, the process of mentioning the limitations and recommendations is going to be provided in this chapter.

## **Chapter one: Dyslexia and Skinner's Reinforcement Theory of Motivation**

### **Introduction**

The present chapter represents the theoretical part of the research work. An overview of some specific learning disabilities is to be presented. This chapter, mainly, focuses on Dyslexia by highlighting its symptoms, causes and diagnosis. Furthermore, since such issue needs to be taken into consideration, a section is devoted to the identification of dyslexic pupils and how they should be taught in the classroom. Another crucial factor that is highlighted in this chapter is, indeed, Skinner's Reinforcement Theory of Motivation and how positive reinforcement can help dyslexics improve to their writing and reading performance.

### **1.1 Specific Learning Disabilities**

In accordance with the American Psychiatric Association(2013), SLD are a neurodevelopmental disorder that is generally diagnosed in children at an early age and which is characterized by a constant impairment in at least one of the four major areas; reading, writing, speaking and spelling. A student may have a specific learning disability when there is an insufficient progress in the eight areas of achievements which are the oral expression, listening comprehension, written expression, basic reading skills, reading fluency skills, reading comprehension, mathematics calculation and mathematics problem solving. (Grigorenko, p37). SLD are concerned with a problem in one or more of the psychological processes that are responsible for the use of language whether in speaking or writing, as it is similarly\*

A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do

mathematical calculations. Such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. Such term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation\*, of emotional disturbance, or of environmental, cultural, or economic disadvantage. (Cortiella 2014, p. 2)

Among the specific learning disorders, five learning disabilities are illustrated in this section that appear to be either related to dyslexia or can be considered as different manifestations of it.

### **1.1.1. Attention Deficit Hyperactivity Disorder (ADHD)**

According to Wender & Tomb (2017, p. 01), ADHD is considered as a recent term given for this disorder by psychiatrists to children. It was first named as “hyperactivity” then later on, it changed to attention deficit disorder (ADD) to be attention deficit hyperactivity disorder as the recent used term “ADHD”. It is “frequently accompanied by learning disorders in reading, spelling, or arithmetic, and by other behavior and emotional disorders as well” (p. 02). As cited in the National Alliance on Mental Illness (2015), Attention Deficit Hyperactivity Disorder is characterized by inattention, hyperactivity and impulsiveness. Such symptoms can continue to teenage years and even adulthood. It is likely found in boys more than girls (Wender & Tomb, 2017, p. 02). Maintaining focus, time management, fulfilling academic responsibilities such as doing assignments and/or homeworks and organizing school materials seem to be a hard task to do by children with ADHD (Franklin, 2018, p. 15). As stated by Franklin (2018, p. 16), the learning environment of the child is an important factor that needs to be considered by their

parents. In order to treat such disorder, stimulants tend to be the first choice to cure ADHD, for they are considered as a way to deal with frustration and eventually lead to harmony in relationships; from teachers, friends and peers. ((National Alliance on Mental Illness, 2015, p. 02).) Non-stimulants, on the other hand, are used when (Low, 2021)

- Stimulants seem to be insufficient.
- The patient has bipolar disorder.
- Certain heart conditions.
- The patient is a drug dealer.

Non-Stimulants medications such as Generic Class, Atomoxetine, Guanfacine and Clonidine can be useful for children with ADHD (American Academy of Pediatrics, 2021)

### **1.1.2 Auditory Processing Disorder (APD)**

Whitelaw (2016) states that “Auditory processing disorder or central auditory processing disorder (CAPD) is a breakdown, in auditory abilities resulting in diminished learning or comprehension through hearing, even though peripheral hearing sensitivity is normal.” ASHA (2005), explains that APD may be associated with difficulties in the order of language learning and is concerned with communication functions. Although the patient can have APD and other disorders, APD is not the result of those disorders. The disorders associated with APD are idiosyncratic (Philips, 2002). It is better to treat it and diagnose it at an early age. (Rodden, 2021). As stated by Dillon et al (2012), APD can be treated with approaches such as medical treatment, hearing aid amplification, and assistive

listening devices, auditory training and special listening strategies that are generally provided by audiologists, physicians, speech-language pathologists, psychologists and teachers may be involved.

### **1.1.3 Phonological Processing Disorder (PPD)**

According to Bernthal et al (2017), speech sound production is not a new study for it is the concern of many scholars in the past, and among them, is Samuel Potter in (1882). Bauman-Waengler (2016, p. 02) defines phonological processing disorder as “language-based, with the core difficulty being the language-specific function of phonemes.” Most children who have a problem in communication tend to have a speech disorder (Dodd, 2013, p. 02). It is hard for someone with PPD to differentiate between one sound and another and identifying rhyming words or create rhyming sounds seem to be a hard task because such disorder is originated in the brain. (Airth, 2021). According to Debonis & Moncrieff (2008), American Speech-Hearing Language Association claimed that PPD is “patterns of error of sound use in a child’s speech and language repertoire. The underlying difficulty relates to the rules of language that govern the sound problems with sound combinations and syllable shape, and/or difficulties in pronouncing linguistic markers such as plural and past tense markers”.

Such disorder can be healed through ‘phonological awareness (decoding, blending and word reading) activities and auditory discrimination (recognize, compare and distinguish between separate sounds) and listening tasks. This process is called the phonological therapy (Hesketh et al 2000). According to Sabourine (2020) articulation therapy can be done through hierarchy levels; isolation, syllable, word initial, other word positions and blends, phrases, sentences and conversation. Isolation occurs by training the brain to function differently in pronouncing a particular sound alone. Practice is the doorway to change the memorized muscle motor pattern which is responsible for body movements that is, a sequence of

muscle movements that are meant to accomplish a purpose (an external purpose) by the help of speech language pathologist. The next step is to associate it with a vowel. For example /l/ can be practiced as ‘la-la-la’ ‘lo-lo-lo’ ‘le-le-le’. From sounds, it will be realized to words. SLP can help by providing words that start with the target sound such as “lemon, life and light”. Other words positions and blends appear through changing the place of the target sound such as “hello, elephant and bill”. Once this process is reached, the speaker is able to combine the words of the target sound with other words such as “I like lemon” and “I love my life”. At this stage, the patient is ready to form full sentences that include the target sound and therefore, he/she is able to generate a conversation targeting other sounds. There is no specific time for moving through these stages. For some, it can take time and for some others, it will not. (Sabourine 2020)

#### **1.1.4Dysgraphia**

As it is stated by LDA of Minnesota (2005), Dysgraphia deals with problems in writing and spelling. It is a neurological disorder that can affect both children and adults. People with such disorder tend to use the wrong word for what they try to communicate. According Crouch (2007, p. 15), dysgraphia is characterized by an illegible letter formation, excessively slow nonautomatic letter writing, difficulties with spelling and written composition, difficulties in spacing things out on a paper and unfinished words. Scientists are not fully sure of the reason behind the appearance of dysgraphia in children. However, for adults it can be caused owing to a brain injury as that of a stroke. For kids, such a disorder can be accompanied with other disorders like of Dyslexia and ADHD. Seemingly, there is no cure for such disorder. It varies from one kid to another with taking into consideration the occurrence of another disorder with it. Kids, who have ADHD and dysgraphia at the

same time, can be treated with attention deficit hyperactivity medicines (Miller, 2021). Frye (2021) states that dysgraphia can be treated with an occupational therapy by “manipulating different materials to build hand and wrist strength, running letter formation drills, and practicing cursive writing which can be easier than printing. Simple repetitive movements, like taking pegs out of a pegboard and putting them back in; can help someone with dysgraphia gain finger strength that will make writing easier and more intuitive.”

### **1.1.5 Dyscalculia**

Dyscalculia can be defined as “a condition that affects the ability to acquire arithmetical skills. Dyscalculic learners may have difficulty to understand simple number concepts, lack an intuitive grasp of numbers and have problems to learn, number facts and procedures... Very little is known about the prevalence of dyscalculia, its causes, or treatment. Purely dyscalculic learners who have difficulties only with numbers will have cognitive and language abilities in the normal range and may excel in nonmathematical subjects. It is more likely that difficulties with numeracy accompany the language difficulties of dyslexia.” (Numeracy StrategyThe National, 2001, p. 2).

### **1.2 Dyslexia**

According to Mayo Clinic Staff (2017), dyslexia is a learning disability that is manifested through problems in reading owing to a struggle in identifying speech sounds and how they are related to other words and letters. Dyslexic children, mainly, are affected by phonological difficulties resulting in limitations of verbal-short term memory. (Snowling 2001, p.03). Analyzing a word through breaking it down into syllables or individual sounds seems to be a hard task for dyslexic

children. (Shaywitz, 1998). Coltheart & Kohnen (2012) argue that children with phonological dyslexia struggle with reading and spelling new words that are similar to the target one. Children with Dyslexia have “trouble with long-term verbal learning. This problem may account for many classroom difficulties, including problems memorizing the days of the week or the months of the year, mastering multiplication tables and learning a foreign language. In similar vein, this problem may be responsible for the word-finding difficulties and poor vocabulary development often observed in children with dyslexia.” (Snowling, 2006, p.03). It is also defined as “a condition that affects the ability to process language. Dyslexic learners often have difficulties in the acquisition of literacy skills and, in some cases, problems may manifest themselves in mathematics. It is not surprising that those who have difficulties in deciphering written words should also have difficulty in learning the sets of facts, notation and symbols that are used in mathematics. This pattern of abilities and weaknesses is known as ‘specific learning difficulties’... Dyslexic learners find it difficult to produce mental or written answers quickly, and the need to ‘learn by heart’ for pupils who have poor memory systems may well result in failure and lack of self-belief. Some dyslexic learners will enjoy the flexibility of approach and methods while, for others, choice creates uncertainty, confusion and anxiety.” (Numeracy StrategyTheNational, 2001, p. 2)

### 1.2.1 Dyslexia and the Brain

It is believed that dyslexic individuals struggle with reading and spelling because they lack intelligence and hard work. However, after years of research, specialists found that dyslexic people do not lack intelligence for they are at least average or above average intelligence. They only have language based difficulty that is essentially a neurobiological basis. (The Dyslexia Resource, 2020). Famous people such as Albert Einstein, Thomas Edison, Henry Ford, Steve Jobs, Muhammad Ali, Leonardo Davinci and Stephen Hawking are considered as dyslexic people and yet, they impacted the world with their inventions and hard work. (Clark, 2021) The brain consists of two halves with different cognitive functions that take place in the left and the right hemispheres of the brain. The process of understanding the written language occurs in the left hemisphere including the frontal, parietal, occipital, and temporal lobes. The areas that are responsible for reading and comprehension are the broca's area in the frontal lobe which is associated with speech production and language comprehension and the angular and supramarginal gyrus which are also responsible in linking different parts of the brain that shape particular letters in order to form words. These areas tend to be different in dyslexic people. (Hutson et al 2007).

As it is stated by Functional MRIs, there are neural differences in dyslexic individuals as compared to normal readers (Sarah et al, 2014). "Individuals with dyslexia were found to share abnormalities in the left hemisphere temporoparietal regions, which are involved in phonological processing, and left hemisphere occipitotemporal region, which plays a part in word recognition". (Peterson &

Pennington, 2012). According to a team of scientists at the MRC Cognition and Brain Sciences Unit, University of Cambridge, there are no specific brain areas that cause learning disabilities such as dyslexia. Duncan Astle and colleagues used machine learning to detect differences of the brain across a group of almost 479 children, 337 of those who have learning-related cognitive problems and 142 from a comparison sample. The researchers found that there are no brain regions that could predict having ADHD, dyslexia or ASD. There was no specific brain deficit that is responsible for language problems or memory difficulties. Rather, ‘the team found that the children’s brains were organized around hubs, like an efficient traffic system or social network. Children who had well-connected brain hubs had either very specific cognitive difficulties, such as poor listening skills, or had no cognitive difficulties at all. By contrast, children with poorly connected hubs – like a train station with few or poor connections – had widespread and severe cognitive problems’. (Siugzdaite et al, 2020). “The severity of learning difficulties was strongly associated with the connectedness of these hubs, we think because these hubs play a key role in sharing information between brain areas,” (Astle et al, 2019)

Similarly, Protopapas & Parrila (2018) state that

Differences in brains are certain to exist whenever differences in behavior exist, including differences in ability and performance. Therefore, findings of brain differences do not constitute evidence for abnormality; rather, they simply document the neural substrate of the behavioral differences. We suggest that dyslexia is best viewed as one of many expressions of ordinary ubiquitous individual differences in normal developmental outcomes. Thus, terms such as “dysfunctional” or “abnormal” are not justified when referring to the brains of persons with dyslexia.

(p. 01)

Researchers have analyzed the brains of dyslexic children and compared them with two other groups of children without dyslexia. It is found that dyslexic children have the same amount of gray matter as the younger children at the same reading level. (Hornickel & Kraus, 2013). Opposingly, Dole & Meunier (2013), argue that the brain consists of both white and gray matter. White matter is located deeper in the brain and is concerned with communication. The gray matter, on the other hand, is responsible for processing information and is composed of nerve cells situated in the outer portions of the brain. Individuals with dyslexia tend to have less gray matter and white matter in the left parietal area compared to those without it. Deficit in the gray matter affects how dyslexics process different sounds of language (phonemic awareness). A decrease in the white matter may affect the reading efficiency of the dyslexic brain. (Dole & Meunier, 2013)

### **1.2.2 Causes of Dyslexia**

Nijakowska (2010) elucidates that the scientific development of the field of neurosciences has explained that the causes behind dyslexia are, mainly, neurobiological and genetic as well as the existence of a functional feature on the central nervous system. According to Mayo Clinic (2017), dyslexia tends to have a heritable component that affects the reading process as well as the existence of some environmental factors such as “a family history of dyslexia or other learning disabilities, premature birth or low birth weight, exposure during pregnancy to nicotine, drugs, alcohol or infection that may alter brain development in the fetus, individual differences in the parts of the brain that enable reading.” Dyslexia can also be caused by biological factors. As it is stated in Eva Gyarmathy’s article;

Dyslexia is the late or abnormal development of literacy skills caused by a neurological difference, and for the most part shows itself as a different way of functioning. The brains of dyslexics are wired differently to those of nondyslexics and appear less ordered. Compared to the average person, information processing is organized differently in dyslexic individuals, and brain scans have shown us that different areas of the brain are activated. (Gyarmathy et al, 2004 p. 2)

According to Rayan (2014), recent research has found that the reasons behind dyslexia are mainly neurological and cognitive differences rather than factors such as poor parenting, childhood depression or anxiety and therefore, factors behind dyslexia are primarily caused by genetics.

### **1.2.3 Symptoms of Dyslexia**

According to Hamilton et al, 2021, dyslexia can be diagnosed at an early age (the preschool age). Preschool children tend to have speech delay, a struggle in memorizing letters and colors, choosing a wrong word to refer to something, reverse sounds and also a problem in differentiating and distinguishing between words. Elementary and middle school children can be noticed to suffer from dyslexia by their reading difficulty compared to their peers. Furthermore, dyslexic children find it hard to process particular information and memorize things sequentially as well as a trouble in pronouncing new words or words with similar sounds. According to Anne et al (2017), males are diagnosed with dyslexia more frequently than male.

Schulte-Körne (2010) claims that;

Reading disorder is characterized by very significantly reduced reading speed. Children with reading disorder often require two to three times as much time as other children, or more, to read text. Slower reading leads to great difficulty understanding what has been read, particularly when reading longer sentences.

Dyslexic adults can still face reading and spelling difficulties along with planning, organizing, speed of processing, memory and, too, awkwardness. They also struggle with their working memory, visual information, phonological problems, listening while taking notes and poor spelling. (Hughes et al, 2009, p. 23)

### **1.3 Identifying Dyslexic Pupils**

Although teachers are capable of teaching early reading skills to their pupils, some of them do not know how to reach children with dyslexia. (Thomson, 2010, p. 10). Nijakowska (2010) elucidates that dyslexic pupils are different than that of their peers in terms of literacy development. Grigorenko (2014) demonstrates that dyslexia is a general learning difficulty that does not need any assessment or specialist provision for dyslexic children are no different to their peers whom are struggling with literacy- related difficulties. Contrarily, Lowell et al (2014) argue that assessment is the doorway through diagnosing dyslexic through which a proper learning can be achieved in order to guarantee that the student is taking the needed support.

Early identification is of the utmost importance for it ensures that children can learn in a suitable atmosphere for the long-term success of the learner. (Kormos, 2017). Schools must also consider the emotional impact of dyslexia on learning and achievement (Neanon, 2011). Some countries such as Australia are trialing blanket

dyslexia screening for all children entering primary schools as a solution to early identification (The Age, 2016)

#### **1.4 Skinner's Reinforcement Theory of Motivation**

According to Fisher et al (2021), verbal behaviour is one instant of Applied Behavioral Analysis (ABA). It is a method that is concerned with communication through which it teaches people who have not yet acquired the language. Such strategy is proven to be an effective one for many factors such as learning, independent living ability, communication, cognitive skills, and vocabulary (Volkmar et al., 2014). Furthermore, this approach considers language as a form of behavior through which it is learnt through stimulus and response as it is mentioned in Skinner's verbal behavior book for he believes that BA is crucial for learning. (Skinner, 1986). However, Barbera (2007) declares that Skinner's book has a sense of complex and is the reason why it has been mostly neglected for decades. Until Dr. Jack Micheal and his student Mark L. Sundberg at Western Michigan University started adapting skinner's work on verbal behavior to children with developmental disorders. (Sundberg, 2008). Skinner (1957) believes that language is just another learnt behavior which is acquired through association and reinforcement. He refers to verbal behavior as "behavior reinforced through the mediation of other people. (Skinner, 1957, p.2). According to ABA Programs Guide Staff (2020), VB is a language teaching method that elucidates the idea that meaning of a word is found in its function. In order to teach a child with language delay, one must first teach its function that is, to operate. Teaching how words actually function is more important than teaching the word itself. A child needs to observe the word before saying it. Language should, therefore, be treated as a behavior that can be shaped and, too, reinforced with taking into consideration why the child is using language. (Barbera,

2007, p.19) Skinner addresses that verbal operants need ABCs which are the antecedent condition, the behavioral form and the consequence of behavior. (elemy, 2020). Antecedent condition is concerned with what happens before the behavior. B stands for behavior itself for it is concerned with what the student does or says and C is the consequence that happens after the behavior. For example, when teachers give their students an assignment to do, antecedent conditions occurs. When a particular student is talking in class or making noise while the teacher is talking, the behavioral form is applied by him/her. As a result, the teacher asks the student to leave the classroom for not paying attention and therefore, his/her peers start confronting them. In this process, the consequence of behavior is applied. It is believed that through ABCs, language learning can be achieved. (Modal Teaching, 2020). Skinner's reinforcement theory of motivation demonstrates that "behavior is a function of its consequences- an individual will repeat behavior that led to positive consequences and avoid behavior that has negative effects. This phenomenon is also known as the 'law effect'." (HARAPPA, 2021). Similarly, Gordon (2021) state that Skinner's reinforcement theory is concerned with human's behavior in which his/her positive behavior is rewarded whereas his/her negative one is punished or ignored. It is based on a concept called "the law of effect". The child repeats actions that are consequences of positive feedback and avoids those that have negative or unpleasant outcomes. (Gordon, 2021). According to skinner (1957, p. 64)

Operant reinforcement, then, is simply a way of controlling the probability of occurrence of a certain class of verbal responses. If we wish to make a response of a given form highly probable, we arrange for the effective reinforcement of many instances. If we wish to eliminate it from a verbal repertoire, we arrange that reinforcement shall no longer follow. Any information regarding the relative

frequency of reinforcement characteristic of a given verbal community is obviously valuable in predicting such behavior.”

### **1.5 Conclusion**

The present chapter is concerned with presenting the literature review that deals with arrears related to the main concern that is Dyslexia. Mainly, a general overview of related learning disabilities is provided in this chapter along with the definition of Dyslexia, its relation to the brain, causes and, too, its symptoms. Furthermore, a section is devoted to dyslexia and teaching by shedding a light to how are dyslexic pupils identified in the classroom and how crucial the process is. Finally, it is believed that verbal behavior, as explained by Skinner, is considered to be one of the effective tools in ameliorating and improving the reading and writing performance of dyslexics and therefore, a section is devoted to demonstrate it.

## Chapter two: Methodology

### Introduction

The present chapter deals with the practical part of the dissertation that is, a careful operation of describing the needed procedures that the researcher used in order to answer the research questions that lead the research. It exhibits the methods used in order to gather the data utilized to test the hypotheses of the research. Therefore, this chapter contains a detailed description of the context of the study as well as the participants that were chosen for conducting the survey. Furthermore, a section is devoted to describe the instruments used in this research work.

### 2.1 Research Method

To carry out this study, the researcher has used the mixed method that is a combination of qualitative and quantitative. Besides, the conducted study is guided by four research instruments: an interview, a classroom observation, a questionnaire and an experiment.

The interview is conducted with speech therapists. It is used in order to shed a light on dyslexia by providing information about the situation of pupils suffering from Dyslexia in Algeria and particularly in Relizane. It also provides insights of whether parents and teachers are aware of such a disorder and, how dyslexic pupils can be identified in the classroom.

The classroom observation, as another tool, is used in order to observe how dyslexic pupils interact in the classroom, how teachers deal with them and how their peers interact with them. Teachers' behaviours along with their attitude are also observed

to find out whether they adjust their teaching methods to meet the needs of dyslexic pupils or not.

The third tool is a questionnaire which is submitted to primary school teachers in order to test their knowledge about this language disorder. The data is conducted both quantitatively and qualitatively.

Finally, an experiment is conducted in the classroom on dyslexic pupils in order to improve their reading and writing deficiency. Motivation is one of the crucial mechanisms that regulate learning. It is considered as an internal process that stimulates an individual to learn for it plays a fundamental role in the learning process. Therefore, Skinner's Reinforcement Theory of Motivation is tested on dyslexic pupils where correct utterances and behavior are therefore reinforced and rewarded whereas incorrect ones are avoided.

## **2.2 Context of the Study**

The study aims at discovering the situation of Dyslexic pupils in the Algerian classroom; as well as experimenting with Skinner's Reinforcement Theory of Motivation on pupils in order to enhance their reading and writing disability. Thereby, the study is conducted in the middle school of Ameer Ameer Abdelkader, where the researcher attended first year class which was divided into two sections: Section A contained 23 pupils and section B contained 24. The first section is constituted of 13 females and 10 males whereas the second one is constituted of 11 females and 13 male. Furthermore, a questionnaire is submitted to Ameer Ameer Abdelkader middle school teachers. Eventually, an experiment using Skinner's theory was applied in the classroom, as well as an observation

accompanied with an interview with speech therapists concerning Dyslexia and dyslexic pupils.

## **2.3 Participants**

Much focus was placed upon working with three groups in order to meet the research requirements, and they are; the middle school learners, the teachers and three speech therapists.

### **2-3-1 Learners**

Second year middle school pupils were chosen as participants of this research. The motive behind this choice was because the signs of Dyslexia can only be seen after one to two or three years of schooling and, therefore, second year pupils can be considered as an appropriate target.

### **2-3-2 Teachers**

A questionnaire is submitted to middle school teachers. They are, too, responsible for the learning experience of pupils in their learning journey. Therefore, any learning disability can be easily noticed by them. The questionnaire is concerned with teachers' awareness of such a language disorder.

### **2-3-3 Speech Therapists**

Interviews are conducted with three speech therapists in order to obtain opinions from experts with more experience and reveal whether they are used to work along with teachers or not. Speech therapists are experts who are trained to deal with dyslexic children by knowing how they cognitively function, what they need in terms of assistance and pedagogical support and how they can be

identified. They also have an idea of how those children are taken in charge by their teachers and how they are treated by their peers. Therefore, speech therapists' insightful information is of great help in this process.

## **2.4 Description of Research Instruments**

In this section, a careful description of the tools used in this research work is provided in order to test the drawn hypotheses. Such description is a fundamental process to allow the reader to have a clear idea of the motive behind the steps that are taken in this practical segment of the research work.

### **2.4.1 Interview**

An interview is conducted with three speech therapists in Relizane. The researcher has used a structured interview with them. The data obtained covers both of the psychological and sociological aspect of their dyslexic patients.

#### **2.4.1.1 Description of the Interview**

The interview is constituted of seven questions designed to the speech therapists. The first and second questions are devoted to the degree of awareness of both teachers and parents regarding the issue of Dyslexia. The third question is concerned with identifying dyslexia in children, and the fourth one is dedicated to know whether dyslexia can be cured with time or not. The fifth question investigates the needed requirements that schools need to have in order to deal with dyslexic pupils. As for the sixth and the seventh questions, they are related to both the psychological and sociological aspect of the issue. The sixth question is concerned with whether dyslexic children struggle in interacting with their peers or not and the last one investigates

whether this disorder is only hereditary or acquired (the environment of a child can be a noticeable factor for the issue).

## **2.4.2 Questionnaire**

Questionnaires are designed to be submitted to middle school teachers. They consist of nineteen questions which are scaled from the least to the most precise ones. Generally, teachers are required to answer about their age, gender, and work experience. Particularly, they are required to answer their level of knowledge and awareness about the issue of Dyslexia.

### **2.4.2.1 Description of the Questionnaire**

The first section is concerned with the personal aspect of the questionnaire i.e. teacher's gender, age, work experience and opinion regarding students' motivation about learning. It encompasses four questions. The first question is related to teachers' gender. This question is quite significant to see which gender is more likely to be empathetic towards pupils with special needs. The second question helps the researcher check whether young teachers are aware of the psychological aspect of their pupils or not. The third question is linked to their work experience as teachers i.e. how they view their teaching journey. Such question is asked to see whether their job has a positive impact or a negative one on them. Finally, the last question of the first section is concerned with how much students are motivated to learn; here, the researcher wants to investigate if the teachers' methods are suitable for all of their pupils.

The second section of the questionnaire is more precise for it comprises more specific questions about pupils with special needs. It contains nine questions. The first four questions are concerned with dyslexia and the teachers' ability

to both detect pupils suffering from this disorder and determine if the issue is related to a lack of intelligence or not and also, how teachers can deal with them. These questions are examined in order to test the level of knowledge teachers have about dyslexia. Finally, the last question of the second section is concerned with the importance of adding the concept of language disorders in teachers' as a title for them to educate themselves about it for it is an important aspect for both teachers and students. This question explores the teachers' motivation to understand their pupils with special needs.

The third section of this questionnaire focuses on the teachers' experience with pupils suffering from learning difficulties, and how they deal with them. It consists of nine questions. The first two questions will determine if teachers have taught pupils with learning difficulties and what type of language disorder they have. These two questions are asked in order to check whether teachers are aware enough of pupils with different special needs. The other seven questions look for the teachers' attitude and methods to deal with such pupils. The third question is divided into two parts. The first is associated with teachers' assessment to meet the needs of pupils with learning difficulties and the second part is the reason why they do not or cannot. The fourth question, on the other hand, investigates whether they use recorded texts to help pupils with learning difficulties. Such method is considered as one of the fundamental techniques in helping dyslexic children to learn. Here, the objective is to explore the teachers' awareness regarding the helpful techniques that are used for pupils with special needs. The fifth question is concerned with the seating arrangement in order to make pupils feel at ease, engage them and elicit their cooperation in a comfortable classroom. The

sixth question is related to time. For this question, the researcher is going to find out if teachers give extra time for assignments to pupils with special needs to avoid feeling ashamed or stressed when they do finish them on time. Last but not least, the following question refers to assessment that is, whether teachers treat pupils with learning difficulties in a different way compared to their peers. Finally, the last question of the last section is an open ended question for it deals with recommendations and solutions given by teachers to such pupils.

### **2.4.3 Classroom Observation**

“Understanding of the pupil’s specific difficulties, and how they may affect the student’s classroom performance, can enable the teacher to adopt teaching methods and strategies to help the dyslexic child to be successfully integrated into the classroom environment.” (Hodge, 2000)

In order to understand how dyslexic pupils function and how they are taken in charge by their teachers and peers, a classroom observation is required. It is used in order to understand the relationship between teachers and pupils with special needs that is, if they pay attention to them or not, how they are treated, handled and how their interaction is with their peers. The observation is applied in second year middle school classroom because, in order to detect dyslexia in pupils, they need to study at least one or two years. Therefore, the researcher would observe the whole classroom with emphasizing on the ones who struggle more.

### **2.4.3.1 Description of the Observation Checklist**

The classroom observation is mainly chosen in order to observe teachers' attitude and behavior towards their potentially dyslexic pupils. It is also meant to observe the level of motivation pupils have in the classroom, their participation and cooperation with their peers. The observation checklist can be divided into two sections.

The first section on one hand, focuses on teachers' behavior in the classroom. The researcher will observe how teachers treat pupils suffering from language disorder. Moreover, we will also detect whether they give additional time to do the assignments for pupils who might suffer from dyslexia; this is to ensure that teachers are conscious that these pupils need to have a special treatment in order to avoid pressure while completing their work. Along with providing them with the needed attention and care, the researcher will observe whether teachers are able to handle the psychological aspect of the child which is, indeed, of great importance to boost their self-confidence and motivation. Finally, the researcher will also check whether they change the seating arrangement from time to time in order to provide for the young learners the suitable environment for learning.

The second section, on the other hand, is devoted to pupils' behavior in the classroom. The researcher will observe how dyslexic pupils behave in the classroom and whether they are noticed by their teachers or neglected. Another objective is to analyze the whole class interaction and motivation, indeed, dyslexic pupils, in spite of their disorder, can be very active learners.

#### 2.4.3.1.1 Description of the Classroom

The classroom the researcher conducted the study in consists of 47 pupils who are taught by several teachers of different disciplines (Arabic, Mathematics, English, French, etc.). The classroom consists of rows and pupils seat in pairs.

Some teachers were welcoming with the observer whilst some others did not really pay attention. Some seemed to be in a full control of the classroom whereas some others gave the impression to lose it. We notice if the teachers are aware of dyslexic pupils or not. All of their answers elucidate that there are some pupils in the classroom who are “*struggling*” with dyslexia while pointing at them for answers.

When the researcher asked the teachers to adapt their teaching method with their pupils (using recorded texts and changing the seating arrangement from time to time), only one teacher answered with “yes”. The rest of them did not really appreciate the idea especially the recorded texts, for they think it is an activity that cannot be achieved in the classroom.

The pupils are not really disciplined in the classroom. Therefore, they do not pay attention to the lesson. Some others, on the other hand, do not cause any disturbance. As for participation, some pupils are careless and talkative. Others, on the contrary, do participate with their teachers regularly.

Teachers are not really friendly with their pupils. They do not use humor or games with them except for one teacher. The rest of them maintain a high level of seriousness and hence, the whole class is not really active for most of them interact with their peers instead of their teachers. Only some pupils remain silent that is, they interact neither with their teachers nor with their classmates.

Teachers are not really that active with their pupils. They do not really move around the classroom to check the progress of their pupils' assignments or writing except for two teachers. Some pupil's spelling mistakes were detected on the board and yet, they were not corrected and revised by the teacher. Some pupils have an illegible handwriting and cannot maintain a straight line when writing on the board. Sadly, it was not noticed by any teacher. During the reading assignments, some pupils find it hard to read especially aloud. However, some teachers did not provide any support, assistance or patience with them. They, instead, tend to suddenly stop them in and ask another one to read. Some teachers, on the other hand, when their pupils make errors while reading or cannot spell words, teachers repetitively say *"I will see you next year in the same class while your classmates are succeeding and getting better marks than you."*

#### **2.4 Skinner's Reinforcement Theory of Motivation**

In order to help pupils suffering from dyslexia, it is believed that Skinner's reinforcement theory of motivation can be of great help for them. This experiment is used in order to motivate pupils to learn in class by providing them a suitable atmosphere for studying. It is done with an English female teacher where the focus is on English.

##### **Description of the Experiment**

The teacher is required to use, by the help of ABCs, Skinner's approach to one group that consists of 24 pupils in the classroom whereas the other group, the traditional way of teaching is applied in the classroom.

<u>A Writing Session</u>		
<b>Antecede</b>	<b>Behavior</b>	<b>Consequence</b>
The pupil is required to observe the structure and the rule of the sentence “I use the pen »	The pupil writes “I use the pen”	The teacher responds with “Perfect!” while giving the pupil a candy
The pupil is required to observe the structure of the sentence “I use the pen to write”	The pupil writes “I use the pen to write”	The teacher responds with “Good job!”
The pupil observes the structure of the sentence “I use the pen to write in school”	The pupil writes “I use the pen to write in school”	The teacher responds with “You are learning fast!” while smiling to the pupil
The pupil observes the structure of the sentence “I use the pen to write in school with my teacher”	The pupil writes “I use the pen to write in school with my teacher”	The teacher responds with “what an excellent job! Here’s a candy!”

The motive behind this activity is to let the dyslexic pupil observe that every sentence needs to have a subject and a verb even when they become longer and more complex. This can make them develop their writing skills successfully and can also show them where to put full stops. Moreover, positive feedback literacy (how students judge, understand, appreciate and act

on feedback) is considered to be a crucial factor that builds the dyslexic pupil's self-esteem. Theories in educational assessment have demonstrated that feedback is the bridge that drives learning and instruction. ((Hattie, 1999, p.9).

<b>Antecede</b>	<b>Behavior</b>	<b>Consequence</b>
The teacher reads “I use the pen” and asks the pupil to repeat after her	The pupil reads “I use the pen”	The teacher responds with “Excellent” and can correct if the pupil makes errors while reading
The teacher says “I use the pen to write” and asks the pupil to repeat after her	The pupil says “I use the pen to write”	The teacher gives the pupil a candy
The teacher says “I use the pen to write in school” and asks the pupil to repeat after her	The pupil says “I use the pen to write in school”	The teacher responds with “very good job!” while smiling
The teacher says “I use the pen to write in school with my teacher” and asks the pupil to repeat after her	The pupil says “I use the pen to write in school with my teacher”	The teacher responds with “Good job! You can read any passage you want or you can choose by yourself”

The objective behind this activity is to let the dyslexic pupil memorize the vocabulary of the sentences in his/her head by dividing them into small parts. This can help him/her understand the structure along with the content. During this process, the teacher is going to encourage the pupil to read the passage out loud in order to detect which words are hard for them to pronounce or are pronounced incorrectly so that she can correct them for him/her. Positive feedback is also mandatory in this process even if the pupils make mistakes; the teacher should not let them feel ashamed or stressed and instead, encourage them to carefully read again.

## **2.5 Conclusion**

This chapter deals with a detailed description of the practical procedures that the researcher has designed in order to conduct the research work. It is concerned with describing the methods used for the research along with the context of the study through which the researcher conducted the study in. Another section is devoted to depict the participants and the sample chosen to conduct the study with. Additionally, the researcher has provided a careful explanation of the research instruments used for the research which are; an interview with speech therapists, questionnaires to middle school teachers, a classroom observation and an experiment used in the classroom by the teacher. The next chapter, which is titled “Results and Discussions”, is a continuum to this chapter through which the findings of the research are analyzed.

## Chapter three: Results and Discussions

### Introduction

This chapter presents the results and findings of the research work. Accordingly, the statistical and non-statistical data gathered by the researcher are provided in a special section; the questionnaires as well as the experiment are exhibited graphically. The interviews are stated and the classroom observation is described. Additionally, a section for analyzing and interpreting the findings of the research work is devoted along with stating the limitations of the study or the obstacles the researcher faced during the process. Finally, some recommendations and suggestions are elucidated in this chapter for further research.

### 3.1 Data Collection

#### 3.1.1 Interview

The interview was conducted with three speech therapists from Relizane.

The first question was about the level of awareness parents have about the issue of Dyslexia.

✚ Question: Are parents aware of dyslexia?

- First Therapist: *“almost 80% of parents are not aware of dyslexia neither of what their kid is going through. The other 20%; are aware of it however refuse to accept it in their kids. ”*
- Second Therapist: *“most of them are aware of their kid’s struggle of dyslexia during school that is, when the kid starts getting bad grades in class and teachers struggle to teach him/her and therefore, they contact his/her parents. However, generally, they are not aware of it before school.”*
- Third Therapist: *“there are parents who are aware of their kid’s condition. However, it rarely happens.”*

The second question addresses the teachers' awareness that is, whether they are in contact with speech therapists about their pupils condition or not.

✚ Question: Are teachers aware of their dyslexic pupils?

- First and Second Therapists: *“yes, there are teachers who call us to inform us about their pupil's situation. However, they do not know what the exact problem is.”*
- Third Therapist: *“not really...”*

The third question is concerned with identifying Dyslexia in children.

✚ Question: How are dyslexic pupils identified?

- First and Second Therapists: *“dyslexia can be identified through observation and tests that are made specifically for dyslexic children.”*
- Third Therapist: *“writing and handwriting are both crucial in identifying dyslexia in pupils and, too, a careful observation along with a test should be applied on them”.*

The fourth question tackles whether dyslexic children can be cured with time or not.

✚ Can dyslexia be cured with time?

- First Therapist: *“yeah it can happen if the kid is provided with the needed treatment and care from his/her teachers, parents and speech therapists because dyslexics are considered as smart people. However, they function differently.”*
- Second Therapist: *“dyslexic children can be healed if they are identified early rather than left until adolescence and adulthood...”*
- Third Therapist: *“possibly but slowly and with time”*

The fifth question is concerned with whether dyslexic children struggle with interaction.

✚ Question: Do dyslexic pupils struggle to make friends and interact with their teachers?

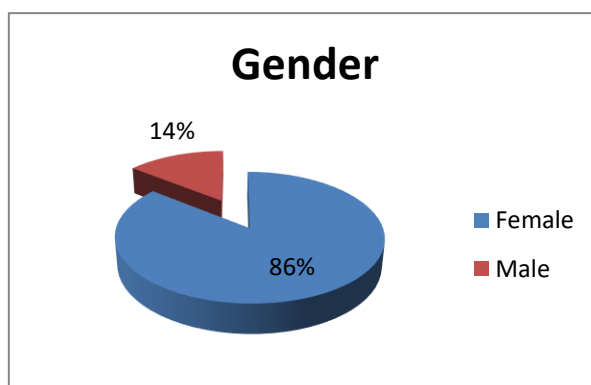
- First Therapist: *“yes, dyslexic children do struggle to make friends and interact with their teachers for most of them are bullied in the classroom by their teachers and peers who take them as unintelligent people instead of understanding their condition and therefore, the kid can be affected by the environment they are living in.”*
- Second Therapist: *“they do not have any problem with the outside world. They practice and live their life normally as any other normal being.”*
- Third Therapist: *“I have never received such case. However, in other places I have heard they do”*

The last question is related to whether environment can be a cause of dyslexia or if it is hereditary only.

- ✚ Question: Can environment be a noticeable factor for dyslexia or is it hereditary only?
- First Therapist: *“a kid can be affected genetically and environmentally. However, in some specific cases, even when his/her parents have dyslexia, their kid does not and vice versa.”*
- Second and Third Therapist *“the issue is not 100% hereditary, the children’s environment can be one of the reasons of dyslexia.”*

### 3.1.2 Questionnaire

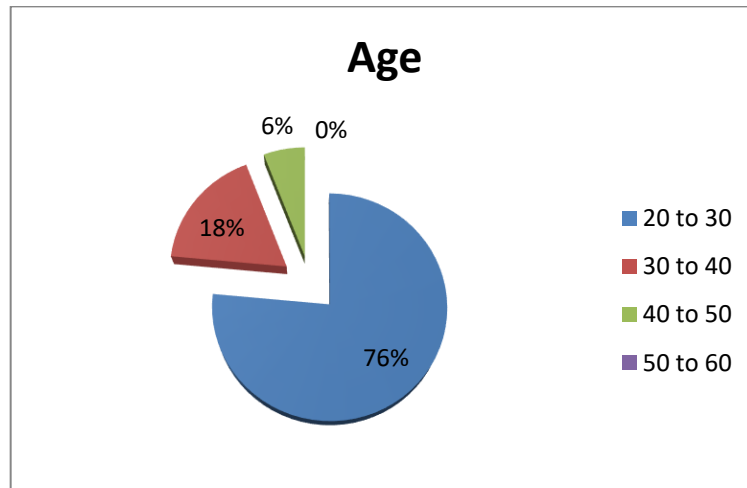
- **Question 01:** What is your gender?



**Figure 1: Teacher's Gender**

The sample constitutes of fourteen middle school teachers. Only two of them are males and the rest of them are females and therefore.

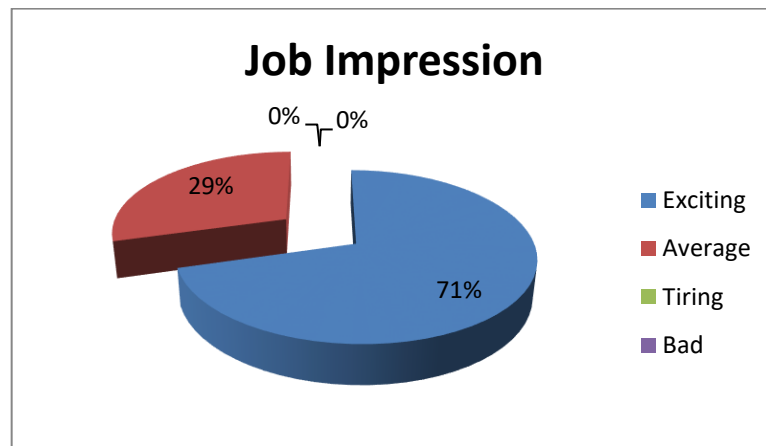
- **Question 02:** How old are you?



**Figure 2: Teacher's Age**

The sample contains various age categories. Thirteen teachers are between the ages of twenty and thirty, three teachers between thirty and forty, and only one teacher between forty and fifty whereas the last part, that is between fifty and sixty, it is 0%.

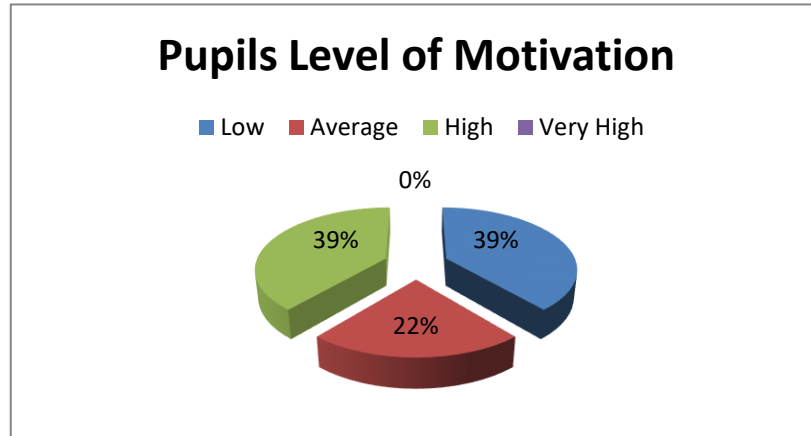
- **Question 03:** How do you find your work experience?



**Figure 3: Teacher’s job impression**

Eleven teachers find their job exciting whereas five teachers think it is average (29%).

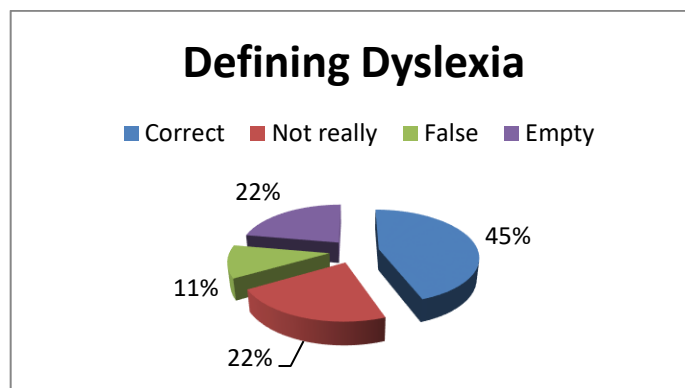
- **Question 05:** How is pupils’ motivation in the classroom?



**Figure 5: Pupils Level of Motivation**

Teachers’ point of view about their pupils elucidates that seven (07) think it is low, four (04) others think it is average and the other seven (07) teachers described it as high.

- **Question 06:** If I tell you to describe dyslexia, what would you say?

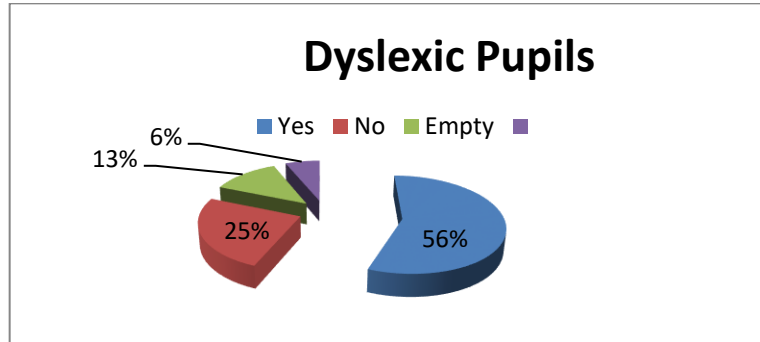


**Figure 6: Teachers’ definition of Dyslexia**

The sample elucidates that only four (04) teachers answered the question correctly. Two teachers (02) did not really provide a correct answer. However, it was partially

acceptable. One teacher (01) provided a false definition and only two teachers (02) left the section blank.

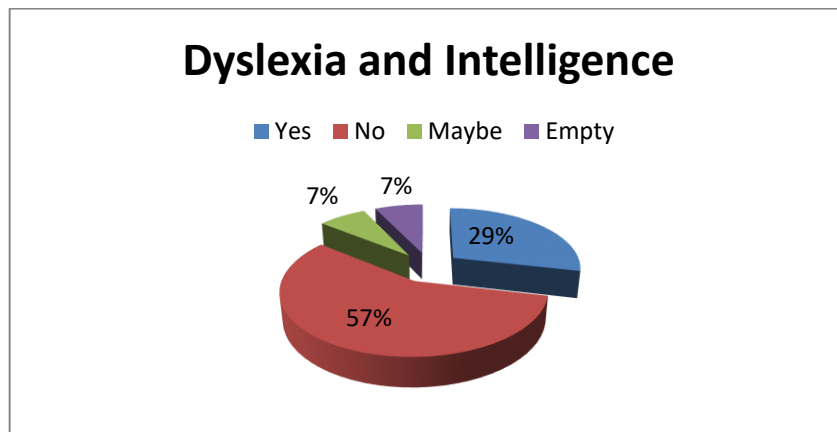
- **Question 07:** Have you ever taught pupils struggling from dyslexia?



**Figure 7: Dyslexic Pupils**

This sample is concerned with whether teachers did meet pupils with dyslexia or not. Nine teachers (09) answered with “yes”, four (04) others answered with “no”. Two teachers (02) left the section empty (13%) and only one teacher (01) elucidated that she cannot answer with yes or no because when her pupils cannot read properly in the classroom neither spell words correctly, she considers it as lack of knowledge rather than a mental problem.

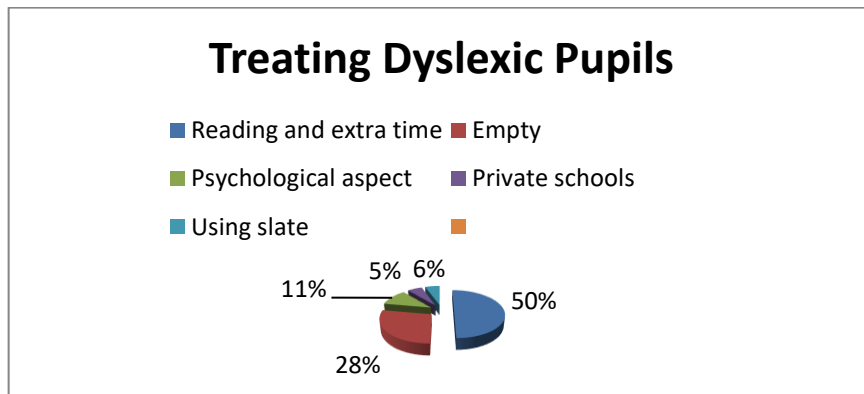
- **Question 08:** Do dyslexic pupils lack intelligence?



**Figure 8: Dyslexia and Intelligence**

This sample reveals that there are four teachers (04) who think that pupils suffering from this disorder are unintelligent whereas eight teachers (08) answered with “no”. Only one teacher (01) answered with maybe and one teacher (01) left the section empty.

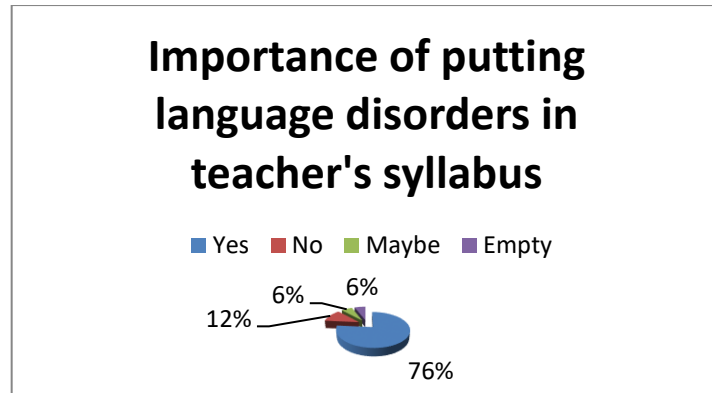
- **Question 09:** How do you treat dyslexic pupils?



**Figure 9: Treating Dyslexic Pupils.**

This sample demonstrates that there are nine teachers (09) who tend to treat and deal with their dyslexic pupils through reading and giving them extra time to do their assignment at home. Two teachers (02) focus on their psychological aspect by boosting their self-confidence instead of embarrassing them in front of their peers. Five teachers (05) left the section empty and one teacher (01) suggested having private schools for pupils with special needs designed specifically for them. Only one teacher (01) said that she uses “*slate*” with them.

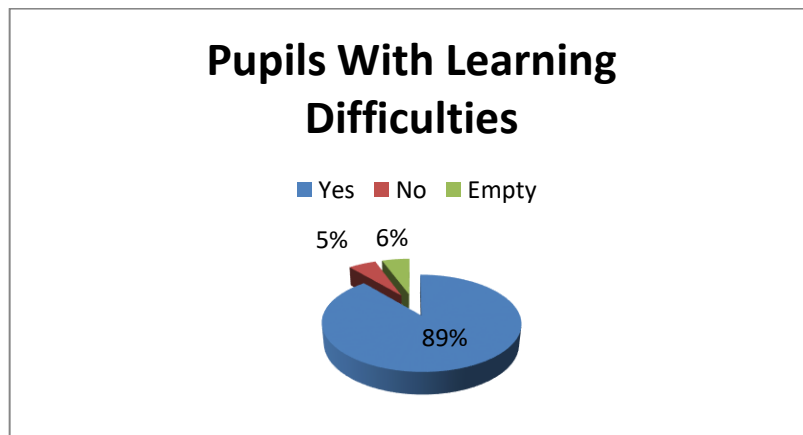
- **Question 10:** Is it crucial to add language disorders as a syllabus in your curriculum?



**Figure 10: Language disorders in teachers' syllabus**

This sample demonstrates that there are thirteen teachers (13) who answered with “yes”, two teachers (02) answered with “no”, one teachers (01) said “maybe” and one teacher (01) left the section empty.

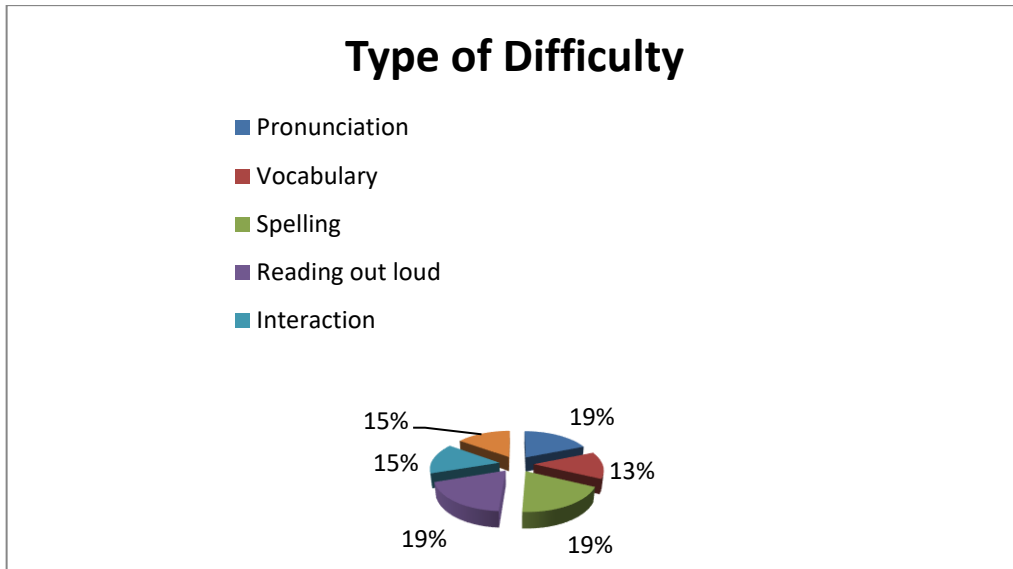
- **Question 11:** Have you ever taught pupils with learning difficulties?



**Figure 11: Teaching Pupils with Learning Difficulties**

The majority of sixteen teachers (16) have taught pupils with learning difficulties while only one teacher (01) has not and one teacher (01) left the section empty.

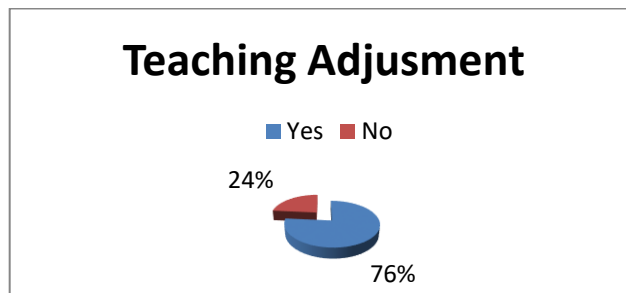
- **Question 11:** If yes, what type of difficulty?



**Figure 12: Types of Learning Difficulty**

Teachers chose several answers in this question. Ten teachers (10) have taught pupils with pronunciation problems while seven teachers (07) have taught pupils with vocabulary problems. Ten teachers (10) have had pupils who struggle with spelling. Similarly, the same ten teachers (10) have taught pupils who are reluctant to read out loud. Eight teachers (08) have noticed pupils who have problems when interacting with their peers whereas eight other teachers (08) have taught pupils who struggle to identify letters and learn numbers and dates.

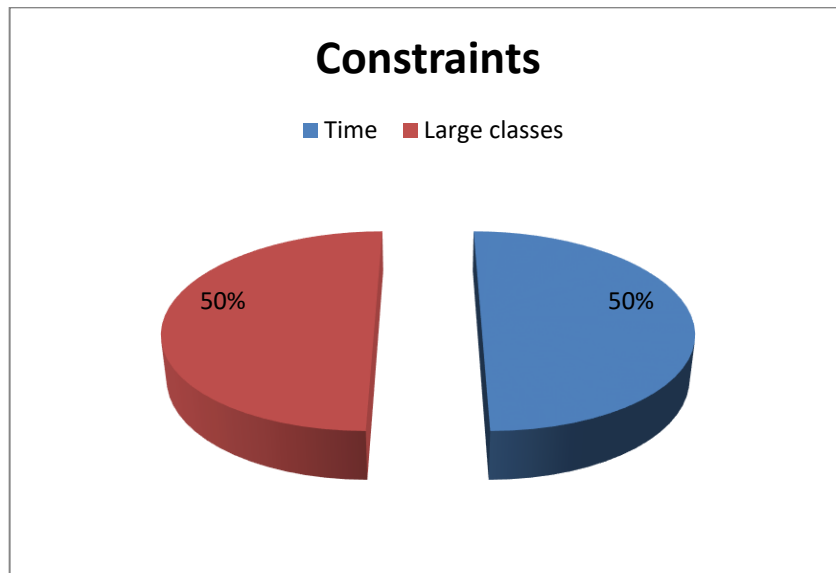
- **Question 12:** Do you, as a teacher, try to adjust your teaching methods to meet the needs of your dyslexic pupils?



**Figure 13: Teaching Adjustment**

This sample elucidates that there are thirteen teachers (13) who adjust their teaching methods to meet the needs of dyslexic pupils whereas four teachers (04) do not.

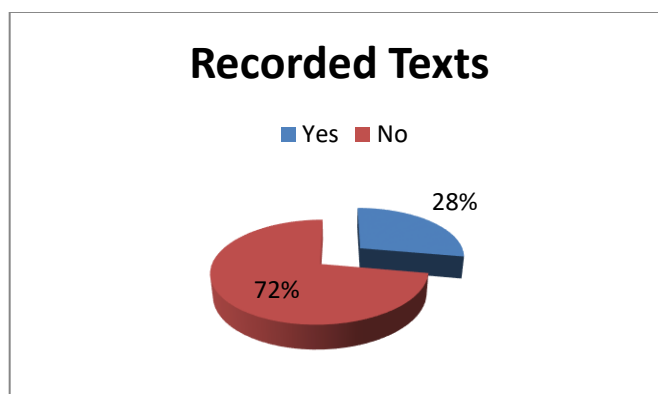
- **Question 13:** If no, why?



**Figure 13: Constraints**

Two teachers (02) chose large classes as a constraint for them to adjust their teaching way whereas two other teachers (02) explained that time is the reason.

- **Question 14:** Have you ever used recorded texts with them?



**Figure 14: Recorded Texts**

Thirteen teachers (13) have not used recorded texts with dyslexic pupils whereas three other teachers (03) have done it.

- **Question 15:** Do you change the seating arrangement for pupils from time to time?

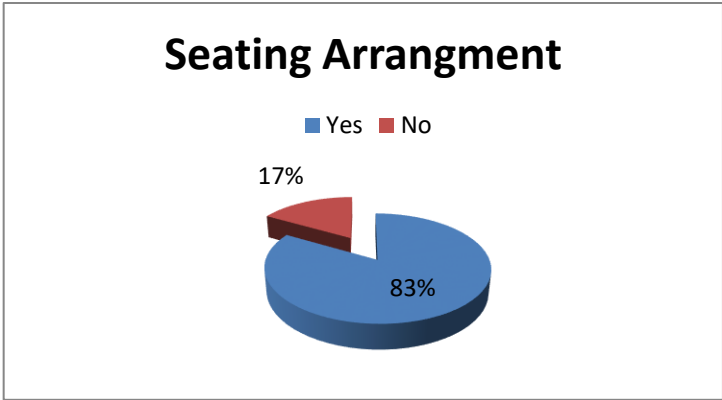


Figure 15: Seating Arrangement

Fifteen teachers (15) said that they change the seating arrangement for their pupils whereas three teachers (03) did not.

- **Question 16:** Do you give dyslexic pupils extra time to read and do their assignments?

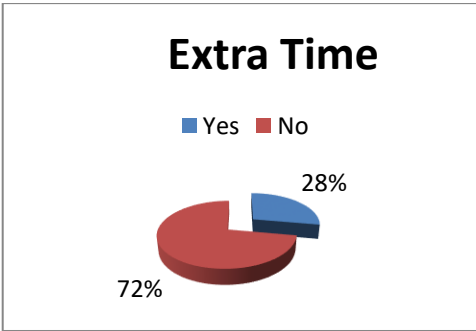
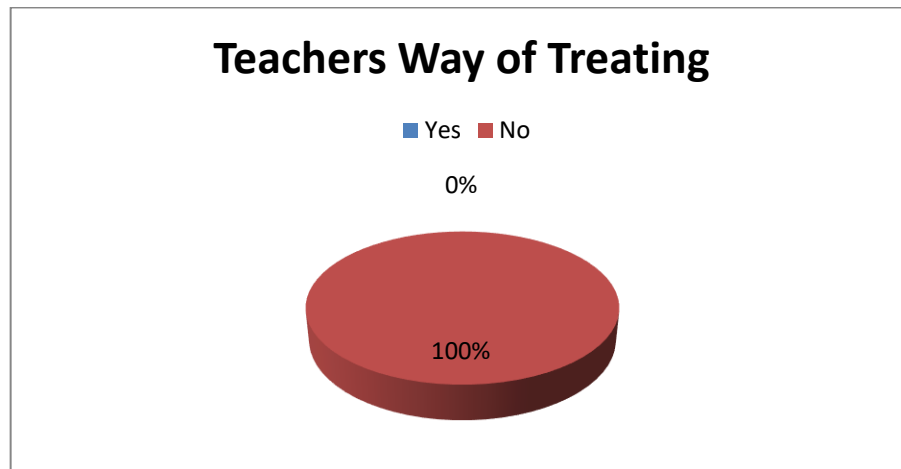


Figure sixteen: Extra Time

This sample elucidates that there are fifteen teachers (15) who do not give extra time for dyslexic pupils whereas three (03) teachers do it.

- **Question 17:** Do you treat dyslexic pupils differently than their peers?



**Figure seventeen: Teachers 'Way of Treating**

This sample illustrates the percentage of teachers' way of treating concerning dyslexic pupils and therefore, all of them answered with "no" (100%)

The last question in the questionnaire is an open ended question. The teachers were asked to give solutions to deal with pupils with learning difficulties. Their answers were as follows:

Some teachers agreed on having a pedagogical treatment to pupils with special needs that is, they should be provided with a special education. Some other teachers, on the other hand, suggested that parents should be more aware of their kids and take them to a private school specifically built for them. Furthermore, some teachers suggested better seating arrangement, whereas some others emphasized that the environment and peer interaction can be of great help for such pupils. They, too, proposed additional homework and writing assignments at home in order to help them develop their reading and spelling skills. Some other teachers emphasized on the importance of the mental process of such pupils meaning that, teachers should take care of them, avoid embarrassing them in the classroom in front of their peers and asking their parents about how they act at home. Additionally, some teachers

suggested that positive reinforcement and motivation to dyslexic pupils, when they say correct answers, can be of great help in enhancing their reading and spelling skills. Moreover, they advised to train teachers who are willing to deal with pupils having learning difficulties in order to be aware of their pupils' condition.

### 3.1.3 Classroom Observation

The following table provides a brief summary of the observation that was tackled and conducted in the classroom from the 16<sup>th</sup> to the 19<sup>th</sup> of April at the level of first year middle school in Aneur Aneur Abdelkader. The process was done in different sessions with different teachers in the classroom.

Date	16/04/2022	17/04/2022	18/04/2022
Remark			
Teacher's teaching technique and behavior	Teachers did not really pay attention to those who do not participate and only work with the same elements. They only work with those whom are active in the classroom whereas the passive ones are neglected. Only one teacher participated with the whole classroom.	Teachers did not pay attention to pupils with difficulties for they think they are uneducated. Teachers work with the same elements and neglect the passive ones. Teachers did not make any seating	In a reading session, teachers did not participate with the whole classroom. They only chose those who were active and the ones who did not raise their hands, were not asked to read. Teachers read the text once and

	<p>Teachers did not move around the classroom.</p>	<p>arrangement in the classroom.</p> <p>Teachers do not give positive reinforcement when pupils give correct answers.</p> <p>Teachers embarrass those who do not know the answer, read properly or spell words correctly.</p>	<p>pupils were supposed to repeat after her.</p> <p>Pupils who struggle to read a full sentence; teachers stop them in the middle and ask another one to read it fully.</p> <p>Some pupils take time to read.</p> <p>Teachers use words such as “hurry up! I don’t have time for you!”</p> <p>Teachers told their pupils to read the text at home.</p> <p>In a writing session, some teachers checked the assignment</p>
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			<p>they gave their pupils to do at home. Those who did not, were asked to get up to the board and were hit.</p> <p>Some pupils have problems with decoding letters and differentiating between some others. Other pupils, on the other hand, struggled with letter order. However, teachers did not pay attention to them and instead, some teachers embarrassed them in front of their peers.</p>
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			<p>Teachers did not change the seating arrangement.</p> <p>No pair working or peer interaction.</p>
<p>Pupils' behavior in the classroom</p>	<p>One group was partially motivated whereas the other one was demotivated in the classroom.</p> <p>In the first group, pupils were mostly alerted and active whereas seven pupils were mentally absent and seemed to be distracted by something else.</p> <p>In the second group, only eight students were</p>	<p>In the first group, the same active pupils were focused on whereas the other seven ones were neglected in the classroom.</p> <p>Three pupils were embarrassed by teachers when they struggle with reading and writing.</p> <p>The same three pupils struggle with leaning new words and forming them correctly.</p>	<p>In a reading session, each pupil was required to repeat a text after the teacher.</p> <p>However, not all of them were picked.</p> <p>In the first group, the same minority was neglected that is, teachers chose only the active ones to read.</p> <p>Two pupils were struggling to read the sentence "I need to go on a diet to be healthy" and were reversing</p>

	<p>active in the class. The rest of them were all demotivated.</p>	<p>In the second group, the same active pupils had more focus whereas the rest of them did not have. In the first group, three pupils who talk in a disrespectful way to their teachers when they embarrass them in front of their peers when they make spelling and reading mistakes or when they struggle to remember words, numbers and colors.</p>	<p>between letters instead. The same pupils could not write the date correctly on their copybooks although it was written on the board In the second group, teachers picked the active ones to read. However, three other students, who were also asked to read, were struggling to read the text out loud for they could not read it correctly despite the fact that they were asked to read it at home before.</p>
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			<p>In both groups, the same pupils who were having difficulties to read could not pronounce the name of the date correctly and were reversing between the letters such as “Nomday” instead of “Monday”</p> <p>In a writing session, two pupils in both groups were asked to write the date on the board and both of them could neither spell the words correctly neither maintain a straight line in writing.</p>
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			<p>In both groups, pupils were asked to copy an already written sentence.</p> <p>In the first group, the same minority of four pupils were struggling in deciphering and reconnecting letters together.</p> <p>In the second group, three pupils were having the same struggle with that of the first group's minority.</p>
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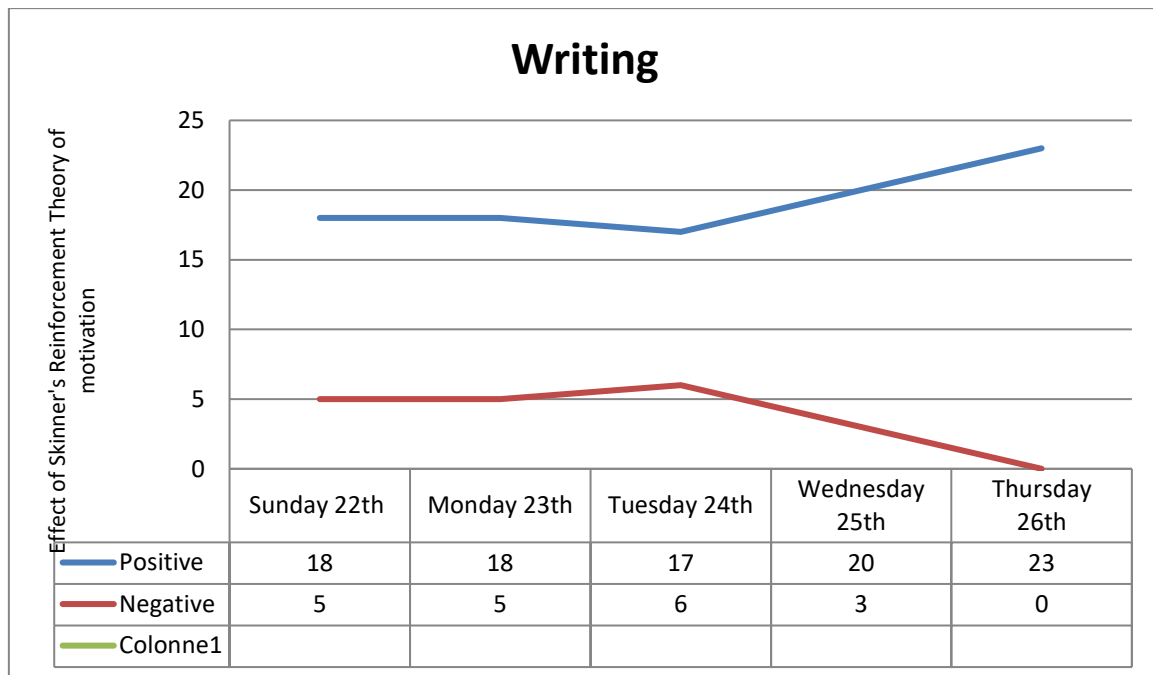
**Table 1: Description of the Classroom Observation**

The classroom observation covered three sessions. The focus was on teachers' attitude and behavior particularly with their dyslexic pupils. Over the three sessions, the researcher observed a repeated routine. Teachers do not give extra time for dyslexic pupils to do and complete their assignments nor do they give their full attention to such pupils rather they take them as either unintelligent or not serious. Active pupils were focused on whereas, dyslexic pupils were neglected. Moreover, teachers did not attempt to change the seating arrangement neither provided their

pupils with pair work for more interaction. Pupils are not really motivated and peer to peer communication is not allowed in the classroom. Among all teachers, none works with their pupils and therefore, they do not check their work neither provide them with positive feedback particularly their dyslexic pupils and predominantly, most of them mistreated their pupils physically and verbally when failing to meet the needed expectations.

### 3.2 Skinner’s Reinforcement Theory of Motivation

#### 3.2.1 The Writing Session

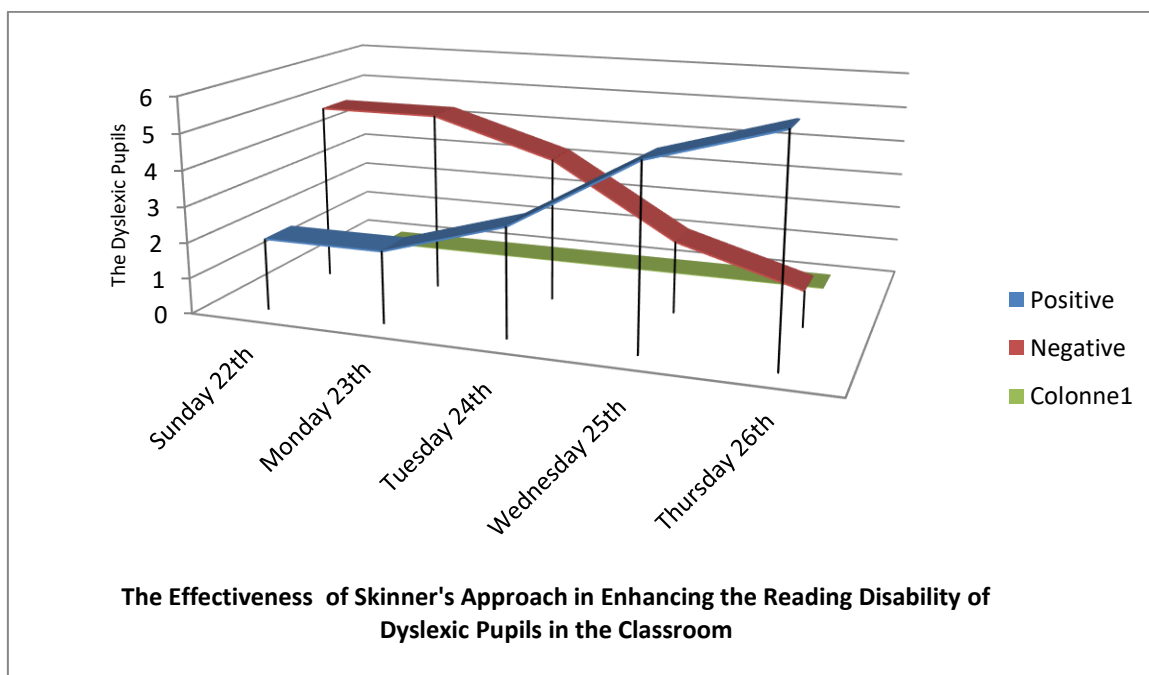


**Figure Eighteen: The Effectiveness of Skinner’s Reinforcement Theory of Motivation in Enhancing the Writing Disability of Dyslexic Pupils.**

This sample is divided into two parts; positive effect of Skinner’s theory and negative one, particularly in enhancing dyslexic pupils’ struggle to write. Sunday the 22th, eighteen pupils (18) positively reacted to skinner’s approach; among them are the dyslexic pupils, whereas five (05) pupils made no progress. However, they were

not dyslexic pupils. On Monday the 23th, the same pupils made a progress in their writing process especially the dyslexic ones. Tuesday, however, one pupil was absent in the classroom and therefore, seventeen pupils (17) out of twenty three (23) reacted positively to Skinner’s approach. There was a noticeable progress in dyslexic pupils especially when the teacher provided them with a candy or a positive feedback when they write the sentence correctly. On Wednesday the 24<sup>th</sup>, dyslexic pupils were able to interact with their peers and ask their teacher to check whether they wrote the sentence correctly or not and therefore, twenty pupils out of twenty three responded positively and confidently to Skinner’s theory particularly the dyslexic pupils. Finally, on Thursday the 26<sup>th</sup>, the whole group (23 pupils) complied positively. Day by day, dyslexic pupils were able to memorize new vocabulary of the sentences and understand that every long or complex sentence must contain a subject and a verb. Additionally, compared to Sunday’s writing errors, Thursday’s ones were noticeably less.

### 3.2.2 The Reading Session



**Figure nineteen: The Effectiveness of Skinner’s Theory of Motivation in Enhancing the Reading Disability of Dyslexic Pupils.**

The focus here was only on the seven pupils that were doubted to have dyslexia in the classroom. In order to enhance their reading disability, the theory was only applied on them. On Sunday the 22<sup>th</sup>, only two dyslexic pupils (02) out of seven (07) responded positively. The rest were still struggling to read the sentences. However, they said that they loved the positive feedback the teacher provided them with. On Monday the 23<sup>th</sup>, the same two pupils reacted positively, whereas the rest, although they liked the positive feedback and support they got from their teacher, were still struggling to read a full sentence correctly. However, compared to the first day, with the help of their teacher, there was some progress in pronouncing some words as they are without reversing them. On Tuesday the 24<sup>th</sup>, three dyslexic pupils reacted positively. The same two pupils made a noticeable progress in pronouncing the same sentences especially after they understood clearly the content. The third one, however, although he responded positively, needed more support and efforts to read it correctly. Wednesday the 25<sup>th</sup> witnessed a great change in the number of dyslexic pupils who did respond to the approach in a positive way for the number went from three (03) dyslexic pupils to five (05) dyslexic ones. Finally, on Thursday the 26<sup>th</sup>, six (06) pupils pronounced the same sentences correctly. However, two of them reversed between the letters of the word “pen” and instead, they turned it to “nep”. Regardless of the error they made in pronouncing the word “pen”, they pronounced the whole sentences correctly. Only one pupil (01) did not really make a progress during this week.

## **3.2 Data Analysis**

In this section, the researcher provides an analysis of the results obtained from the interview with speech therapists, the questionnaires that were submitted to middle school teachers, the observation that was conducted in the classroom and Skinner's experiment that was also conducted in the classroom with an English female teacher. Hence, we interpreted the results and the findings separately in order to combine all the findings in a general discussion and deduce the final results.

### **3.2.1 Interview**

The interview with speech therapists was a proof that despite the fact that they receive such cases from parents and teachers, both of them are not really aware of such a condition. Seemingly, parents and teachers cannot really detect dyslexia in children until they fail in the classroom. Some parents refuse to take an advice of an expert because they refuse to accept their child's condition. Moreover, it is not a hard task to identify dyslexic pupils in the classroom if teachers are quite knowledgeable enough about the issue but most of them fail to identify the exact issue their pupils are going through. The standard test of dyslexia can be applied in the classroom under the supervision of speech therapists in order to fully identify it. However, this procedure is neither considered by teachers nor by administrator.

The child's environment can also be a noticeable factor to either develop dyslexia or not. For this reason, the child can either boost their self-confidence or lose it depending on how they are treated by their teachers, parents and peers. Seemingly, some dyslexic children struggle to make friends, interact with their teachers, peers and open up to their parents. Therefore, treating them can be a hard task if it is only done by speech therapists. Most of the time, they are seen as unintelligent people

because of their bad grades and inability to read properly or spell correctly and therefore, they do not really receive the needed support.

### **3.2.2 Questionnaire**

The sample consists of a majority of females with an exciting work experience. Most of them try to change and adjust their teaching method to pupils with language disorder. However, they fail to identify dyslexic pupils for they consider them as pupils who lack intelligence rather than having a language disorder. Using recorded texts was not appreciated by teachers for they consider it as inappropriate to do in class and, hence, this proves that teachers are neither knowledgeable enough about their pupils nor do they have the appropriate means to deal with them. Almost the whole sample of teachers stated that they do change their seating arrangement from time to time. This proves that teachers have empathy and try to make them feel comfortable. However, a great majority of teachers do not give extra time to pupils with special needs. This means that they do not have enough patience to deal with their pupils although they try to adjust their teaching methods with them.

When it comes to assessment, none of them treat dyslexic pupils differently. This implies that all of them are not aware of the impact of self-esteem on challenged pupils.

Reading the suggestions and solutions they provided, it can be deduced that they somehow have an idea about the particularity of the situation. However, they still need a lot of efforts to know about the issue itself.

### **3.2.3 Classroom Observation**

The classroom observation proved that dyslexic pupils are not properly taught in the classroom. Teachers do not give attention to pupils who have learning difficulties. Particularly, they give more attention to those who are active in class. They do not involve every pupil in the classroom when it comes to doing tasks such as reading and writing and do not use positive feedback either when pupils answer correctly in the classroom, especially, those struggling to learn. They instead punish them physically by hitting them or demotivating them with their words. As for the pupils, most of them are not really motivated in the classroom which implies that teachers' way of teaching is not really considered as exciting for them. Some of them fear to read out loud for they struggle to read a full sentence correctly because teachers stop them in the middle and ask for another one to read. This proves that they are not patient with pupils with low reading. When it comes to writing, some pupils cannot maintain a straight line to write the date, they have problems with encoding and the order of letters. Yet, such issue is not really noticed by teachers for they take them as undisciplined pupils who are not willing to study hard in class which implies that they are not aware of some language issues.

### **3.2.4 Experiment of Skinner's Theory of Motivation**

The sample elucidates that Skinner's experiment can be considered as effective in teaching pupils particularly dyslexic pupils. Most of pupils responded positively to it especially after they received positive feedback or sweets after they wrote and read the sentences correctly. Dyslexic pupils seemed to make a good progress in pronouncing and spelling some words correctly. Those who did not interact in class with their peers did also interact with them while exchanging ideas and answers with

each other. Hence, it can be deduced that applying the experiment in a long term, can fully help dyslexic pupils to successfully learn in class with their teachers and peers.

### **3.3 General Discussion**

From the previous analysis, we can conclude that there is a lot of work that needs to be accomplished in order to help dyslexic pupils. There are, indeed, many shortcomings that need to be taken into consideration. Primarily, teachers need to be trained and receive information about language disorder in order to gain knowledge and awareness about it. Technology is also lacking in the classroom for two main reasons; teachers' negative attitude towards it and also the deficiency of the devices in the institution coupled with the struggle of getting the permission to use them.

Despite the fact that teachers and parents are aware of the important role of speech therapists, they are not aware of the child's psychological aspect. In fact, they do not cooperate with speech therapists properly and regularly. Instead, they expect them to do all the work alone to treat dyslexic children. Additionally, Skinner's reinforcement theory of motivation, can be considered as an effective method in teaching dyslexic pupils and teachers should take such aspect into consideration.

### **3.4 Limitation of the Study**

In this section, we exposed some of the obstacles that the researcher faced while conducting the research which hindered the well going of the process. Algerian students and researchers have very little accessibility to schools and institutions. Therefore, they frequently struggle with the administration in case they want to access an institution in order to conduct a study. Another noticeable obstacle the researcher faced while conducting the study is that of time. It was a great obstacle for the researcher to plan and organize the research work especially

conducting the experiment in the classroom for a short period of time. Obtaining satisfactory results requires more time than the allotted one especially for the experiment.

### **3.5 Recommendations**

After completing this research work, the researcher has concluded that there are some changes that need to be done in order to enhance the learning process for pupils with language disorder. First of which is the awareness teachers and parents should have about language disorders because it is crucial for the teacher to understand their pupil's condition and therefore, teachers would understand that such pupils need to have their special treatment and teaching method to meet their needs in the classroom. Moreover, the cooperation between teachers, parents and speech therapists is essential to help pupils with language disorder who need psychological support during the whole learning process. Another vital factor is, indeed, the integration of AVS's (auxiliares de vie scolaire) which is commonly called "school aids" or "special needs assistant", these are professionals who assist the teachers and are of great help for dyslexics in class. Pupils with language disorder can be seated close to the teacher and therefore, sitting the dyslexic pupils next to their teacher can help them stay focused away from distracting sounds, materials and objects. In terms of writing, the teacher should preferably write short sentences rather than longer ones to make it easier for the dyslexic pupil to understand the content and this process will make information easier to retain. Additionally, concrete materials are, indeed, a good option for dyslexic pupils function positively with visual cues or displays. Finally, there has to be a special curriculum designed specifically for pupils with special needs through which the teacher can make some changes in the program according to the cases they teach

rather than following the standard one strictly. Although it seems to be an impossible task to fulfill, perhaps, with time, some changes can appear.

### **3.6 Further Research**

For future projects, there should be more emphasis on the domain of educational psychology along with language disorders. However, the work should be done with more experimental procedures, with the cooperation of speech therapists along with teachers and psychologists by the use of a suitable teaching method along with technology. Despite the existence of speech therapists for dyslexic pupils, this idea is absent in schools and therefore, there must be a sense of cooperation all the professionals involved in the field of learning in school.

### **3.7 Conclusion**

This chapter is concerned with a summary of the findings obtained from the research work. It consists of a section that is devoted to the results and the findings of the study followed by a general discussion that sums up the whole chapter. Moreover, a section is also dedicated to the obstacles the researcher faced while conducting the study. Additionally, another section is devoted to some recommendations and suggestions for further research that are of great help for dyslexic pupils and pupils with language disorders.

## General Conclusion

The dissertation in hand tackles a topic related to educational psychology which is the case of dyslexic Pupils in the Algerian Classroom. The researcher chose the case study of second year pupils from Aneur Aneur Abdelkader situated in Relizane. This research addresses the situation of pupils who face language disorders like that of dyslexia mainly affecting the reading and writing performance. In this context, aspects such as teachers' and parents' awareness, pupils' relationship with their teachers and their peers are investigated in order to have an overview of their integration in the classroom.

The research work is divided into three chapters. The first chapter is concerned with an overview of some specific language disorders that are considered as different manifestation of dyslexia, for their symptoms are almost similar to each other. In addition to this, the main issue which is, indeed, dyslexia is also explained along with its aspects such as causes, symptoms and its concern with the brain. Another crucial factor which is Skinner's Reinforcement Theory of Motivation is also elucidated in the first chapter in order to highlight its importance in treating dyslexic pupils. The second chapter, which is research methodology, is dedicated to a description of the research instruments tackled throughout the research work and last but not least, the analysis of the findings that were deduced from the research methods used to conduct the work are analyzed in the third chapter accompanied with limitations of the study, recommendations and further research.

Our investigation revealed that teachers are not really aware of the child's situation although they are knowledgeable, to some extent, about language disorders. Several obstacles such as the lack of materials such as recorded texts, appropriate teaching

methods, time restraints, length and rigidity of the program are the reasons behind such issues. Moreover, most of the parents are neither aware of their children's situation nor psychologically prepared to accept it in their child. Additionally, teachers, parents and speech therapists do not really cooperate with each other and therefore, the improvement regarding school performance is neglected. Furthermore, teachers do not use special teaching or training with dyslexic and hence, it is hard for the pupil to learn in such an environment. From the previous research, we can conclude that the psychological aspect in teaching has an important significance in the field of education and psycholinguistics. Similarly, the issue of learning disabilities needs to be taken into consideration because we can deduce, mainly in the Algerian context, such pupils are struggling owing to the lack of the needed factors dyslexic pupils need to have in every classroom. Hence, they need more attention from their teachers, parents and administrators. Therefore, we can conclude that the hypotheses drawn from the beginning of the research are valid because, indeed, the Algerian classroom is not fully prepared to meet the need of pupils with language disorders.

Finally, we can say that in order to achieve a better learning atmosphere and experience with dyslexic pupils, noticeable changes have to be implemented. For instance, teachers should be trained enough to identify dyslexia in pupils and therefore, can apply Skinner's theory on them for better results. Furthermore, emphasizing cooperation between speech therapists, teachers and parents in school can also be of great help for dyslexic pupils to experience a better learning process in the classroom and therefore, to improve their reading and writing performance.

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## Appendices

### Interview Questions

- Are parents aware of dyslexia?
- Are teacher aware of their dyslexic pupils in the classroom?
- How are dyslexic pupils identified?
- Do dyslexic children struggle to make friends and interact with their teachers?
- Can environment be a noticeable factor for dyslexia or is it hereditary only?

### Teacher's Questionnaire

Dear teachers,

This questionnaire is conducted in order to contribute in a research work, tackling the issue of a mental disorder amongst middle school pupils. You are kindly asked to answer the following questions honestly and your contribution is highly appreciated. Thank you in advance!

1. Gender

Male

Female

2. Age

20 to 30

30 to 40

40 to 50

3. How is your experience as a teacher?

Good

Average

Tiring

Bad

4. How do you find pupils' motivation in the classroom

Average

High

Very high

5. If I tell you describe dyslexia, what would you say?

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6. Do you think that dyslexic pupils lack intelligence?

Yes

No

Maybe

7. How do you treat dyslexic pupils?

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8. Is it crucial to add language disorders to your curriculum?

Yes

No

Maybe

9. Have you ever faced pupils with learning difficulties?

Difficulties with pronunciation

Difficulties with adding and/or memorizing new vocabulary

Difficulties with Rhyming

Difficulties in learning: the alphabets, numbers and days of the week.

Difficulties with spelling and writing their names

Difficulties in their interaction with their peers

Problem in identifying letters that are similar to each other such as “d” and “b”, “p”

and “q”

Reluctance to read aloud in class

Trouble learning how sounds go together

Mixing up the position of sounds in a word

10. Do you, as a teacher, try to adjust your teaching to such pupils?

Yes

No

11. If no, why?

Time constraints

Large classes

12. Have you ever used recorded texts for dyslexic pupils?

Yes

No

13. Have you ever changed the seating arrangement?

Yes

No

14. Do you give dyslexic pupils extra time to do their assignments?

Yes

No

15. Do you treat dyslexic pupils different than their peers?

Yes

No

16. In your opinion, what do you suggest as recommendations or solutions to deal with pupils struggling with language disorders?

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