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**Vocabulary Acquisition by Down Syndrome Children:  
Challenging Cognitive and Learning Disabilities. The  
case of Tiaret and Dahmouni Psycho-pedagogical Centers**

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in Linguistics

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## **Dedication**

First and foremost, my unbounded thanks to Allah, our Almighty God, the ever-magnificent, the ever-thankful, for His help and guidance. Who gave me the strength, knowledge and power, for my everyday life.

I am greatly indebted to the most wonderful parents in the world, whose words of encouragement and push for tenacity ring in my ears, KHEIRA and HOUARI, who encouraged me a lot with their love, care and endless support during my all my study life, a special feeling of gratitude to them.

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Without forgetting to mention the rest of my family members, who wished me success and happiness.

**SORIA**

## **Dedication**

**This Humbel Work is devoted For The Light of My eyes My Mother.**

**The only men that loves Me from The Bottom of His Heart My Father.**

**My nephewes: Mourad, Chiraz and Rodayna.**

**My family Love you All.**

**ABLA**

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## Table of contents

Dedication .....	I
Dedication .....	II
Acknowledgment .....	III
Table of contents.....	IV
List of tables.....	VI
List of figures .....	VII
List of Abbreviations .....	VIII
General introduction .....	1
Chapter 01 : Literature Review Down Syndrome.....	12
1.1.Introduction .....	12
1.2.Definition of Language .....	12
1.2.2.Types of language .....	13
1.2.3. Characteristics of Language .....	14
1.2.4. Language Transmission .....	15
1.3. The Definition of Language Learning .....	15
1.3.1. Stages of Language Learning.....	16
1.3.3. Factors That Impact The Process of Language Learning .....	17
1.3.4. Language Learning Strategies .....	17
1.3.5. Oxford’s taxonomy ‘1990’ .....	18
1.4. The Definition of Language Acquisition .....	19
1.4.1.LDA language Acquisition Device.....	21
1.4.2.Theories of Language Acquisition Device.....	21
1.4.3. Stages of language acquisition .....	25
1.4.4.Vocabulary acquisition .....	28
1.4.5.The Logical Problem of Vocabulary Acquisition.....	29
1.5. The Distinction Between Language Learning and Language Acquisition .....	30
1.6.Conclusion.....	31
Chapter 02 : collecting data about down syndrome children .....	35
2.1. Introduction .....	35
2.2. The Definition of Down Syndrome.....	35
2.2.1. Down Syndrome Malady.....	35
2.2.2. History of Down Syndrome .....	35
2.3. Causes of Down Syndrome .....	36
2.3.1 Defining “Non-disjunction” .....	36
2.4. Types of Down Syndrome.....	39
2.5. Mental and Physical Features of Down Syndrome.....	39
2.6. Therapies and Treatments for Down Syndrome .....	41
2.7. The Use of Vocabulary by Down Syndrome Children .....	44

<b>2.8. The Case of Using One Word and Two Word Phrases .....</b>	<b>44</b>
<b>2.9. The Influence of Down Syndrome Children on the Development of Vocabulary .....</b>	<b>45</b>
<b>2.10. The Difficulties that Down Syndrome Children Face in Acquiring Vocabulary .....</b>	<b>46</b>
<b>2.11. Learning Strategies of Down Syndrome children.....</b>	<b>47</b>
<b>2.12. Strength Points that Helps the Development of Vocabulary .....</b>	<b>48</b>
<b>2.13. Down syndrome and the Development of Vocabulary .....</b>	<b>48</b>
<b>2.14. Conclusion.....</b>	<b>50</b>
<b>Chapter 03 :Data Collection and Analysis.....</b>	<b>52</b>
<b>3.1. Introduction .....</b>	<b>52</b>
<b>3.2. The Research Tools.....</b>	<b>52</b>
<b>3.2.1 The Speech Therapists and Educator’s Questionnaire .....</b>	<b>52</b>
<b>3.2.2. Classroom Observation .....</b>	<b>52</b>
<b>3.3. Research Design.....</b>	<b>53</b>
<b>3.4. Research Methodology .....</b>	<b>53</b>
<b>3.5. The Participants.....</b>	<b>54</b>
<b>3.6. The Purpose of the Study.....</b>	<b>54</b>
<b>3.7. The Research Questions .....</b>	<b>54</b>
<b>3.8. The Research Hypothesis .....</b>	<b>54</b>
<b>3.9. Analysis and Discussion.....</b>	<b>55</b>
<b>3.9.1. Analyzing and Discussing the Participant’s Questionnaire .....</b>	<b>55</b>
<b>3.9.2. The Classroom Observation .....</b>	<b>67</b>
<b>3.10. Interpretation and Discussion of Results .....</b>	<b>67</b>
<b>3.11. Conclusion.....</b>	<b>68</b>
<b>General Conclusion .....</b>	<b>73</b>
<b>summary</b>	

## **List of tables**

<b>Table 1 . Open and Pivot Words .....</b>	<b>27</b>
<b>Table 2. The Development of vocabulary Acquisition by Down Syndrome Children .....</b>	<b>49</b>
<b>Table 3. Respondent's Age .....</b>	<b>56</b>
<b>Table 4. Problems that Down Syndrome Children Face .....</b>	<b>63</b>

## List of figures

Figure 1 .Nondisjunction .....	37
Figure 2.Normal Cell Division .....	38
Figure 3. Participant's Gender .....	55
Figure 4. Participant's Teaching Experience .....	56
Figure 5. Dealing with Children .....	57
Figure 6. Concentrating on Vocabulary .....	57
Figure 7.The Way of Understanding Word's Meaning .....	58
Figure 8. Acquiring The Second Language .....	58
Figure 9. Down Syndrome and Skills of Language .....	59
Figure 10. Integrating Down Syndrome Children in School with Other Normal Children	59
Figure 11.Quantity and Quality of Vocabulary.....	60
Figure 12. The Ability of Acquiring Vocabulary.....	60
Figure 13. The Production of Vocabulary .....	61
Figure 14. Down Syndrome and Their Daily Life With Vocabulary .....	61
Figure 15. Expressing on Feeling and Emotion .....	62
Figure 16. Communication and Words .....	62
Figure 17. Communication and Reaction .....	63
Figure 18. The Production of Correct and Understandable Words .....	64
Figure 19. Strategies in Acquiring Vocabulary .....	64
Figure 20. The Evaluation of Children's Vocabulary .....	65
Figure 21. Down Syndrome and Methods of Psychological and Pedagogical Centers .....	65
Figure 22. Reacting Positively with New Words .....	66

## **List of Abbreviations**

**LAD:** Language Acquisition Device

**SR:** Stimulus Response

**UG:** Universal Grammar

**DS:** Down Syndrome

**N.D.S.S:** National Down Syndrome Society

**TD:** Typical Developing

# **General introduction**

# General Introduction

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## General introduction

The present research is tackling the issues of acquiring vocabulary by Down Syndrome children. We aim at orienting our investigation towards the strategies and methods that are used by Psycho-Pedagogical Centers and Parents in order to help Down Syndrome children to acquire and develop their language.

The goal of this research was to note, define and describe supporting strategies of language acquisition and communication skills development of children with Down Syndrome.

This research is composed of three chapters. In the first chapter, we want to present an overview about language acquisition and language learning and indicating their main theories, also explaining the distinction between them. In addition to that, presenting stages of acquiring vocabulary and developing the language. At the end of the chapter, we will discuss the logical problems that prevent any child from acquiring words easily. In the second chapter, we will define Down Syndrome children, their history, types, physical features, causes and treatment. Moreover, we want to introduce how Down Syndrome children talk and how they effect on vocabulary development. At the end of this chapter, we want to mention the most common challenges/difficulties that they face while acquiring new words. The last chapter is composed of two methods which are the questionnaire and observation, in this chapter we want to discuss and analyze the presented data.

In this research, we want to discuss the various theories of language acquisition and their positive and negative aspects in which none has yet been definitive in explaining the acquisition of language by children with complex learning experiences. These theories and approaches have emerged over years to analyze and study the process of language acquisition.

The study of language acquisition has been strongly influenced by the theory of generative grammar of the linguist Noam Chomsky, the main schools of thought, which provide theoretical paradigms in guiding the course of language acquisition are the Cognitive Theory and Behaviorism Theory. Moreover, we aim at explaining the distinction between language acquisition and language learning, which are very different.

Starting from the fact that Down Syndrome is considered as an inherited disorder which has higher rate with increasing age, this is high identifiable disease which affects physical and mental health. Down Syndrome is categories into three main types according to the chromosome localization which are: Trisomy 21, Mosaic Down Syndrome and Translocation.

Different researchers presented causes, pathophysiology, diagnosis and treatment of Down Syndrome. What we aim at showing in this work, is that a person with Down Syndrome should be able to share the same experiences in life as any typically developing individual or (TDI) for short. The child and later the adult with Down Syndrome benefits from a well-informed, supportive and supported family. Furthermore, these services and therapies are presented for Down Syndrome children according to their needs, they include: Occupational Therapy, Physical Therapy, Speech Therapy, Emotional and Behavioral therapy, Educational Therapy and Medical treatment.

## General Introduction

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Down Syndrome children need to develop necessary skills and strategies to acquire vocabulary. In other terms, they need to be trained in order to meet increasingly complex difficulties of vocabulary acquisition that they may face.

The aim of the research is to observe the different ways and methods that Down Syndrome children use to acquire vocabulary and present a clear view about the main difficulties that may face them. The observation was conducted in two different Psycho-Pedagogical Centers, in Tiaret and Dahmouni-Algeria. The study focuses on three main questions which are considered as the basic of the research, which are: How Down Syndrome children express their needs? Do Down Syndrome children acquire vocabulary like typically developing individual? What are the difficulties that Down Syndrome children face while acquiring vocabulary?. The research questions are generally designed to figure out the professional's opinion about the research problem

**Chapter 01**  
**Literature Review**  
**About Down**  
**Syndrome**

## Chapter 01 : Literature Review

### 1. Introduction

Human beings are innately socialized, they need to convey their thoughts, feelings, culture and many other things. In order to do so they have to communicate using a particular language. This language have to be submitted to a set of rules and principles so that it will be standerized and well formulated. In this chapter we will deal with the general description of language learning and language acquisition and the distinction between them, how they are linked together and do one complete the other or not. We will see the theories and approaches that have emerged to study the process of language acquisition and language learning. We aim at discribing the ways of acquiring the language that is mainly used in their enviroment. Moreover we will give a short review about the thestartigies that that are used in learning a language, and how language is transmitted from one person to another. In addition at the end of this chapter we will see our focus wich is in « Acquiring vocabulary », how it is acquired and it main problems.

### 2. Definition of Language

It is commonly known that the word « Language » refers to means of communication or a way to be coonected with others, transfering :culture, thoughts, emotions and other things. Talking about the conception of language many linguists argue about its definition and each one of them have gave his/her appropriate explanation. starting with the most famous linguist Noam Chomsky who stated that language is the congentialpotantiality of the native speaker to understand and organize a correct grammatical sentence. In the opinion of chomsky, language is set of « Finite and Infinite » sentences, each finite lengh and constructed out of finite set of element. Chomsky assumes that “ sentences ” are the basis of any language. Another linguist, Bloomfield proclaimed that the totality of the unnternces that can be made in a speech community is the language of that speech community .Bloomfield focused on the vocalization generated by all people of the same community. He gave a great importance to the form so that he thinks that the “ Form ” is the basis of a language not the “ meaning ”. According to Fernand De Saussure, language is an arbitrary system of sign formalize of “ Signifier and Signified ”. In more details, language is first a system that has no logic or reason, secondly insure both object and expressions used for object, thirdly expressions and object are somehow subjectively bind together, and eventually these expressions comprise graphic symbols and sounds that humans utilize for creating speech and writing severally for the purpose of communication. Even philosophers have provided us with their ideas about language, for instance ARISTOL who declared that : “ speech is the representation of the experience of mind ”, in other words, Aristol sees that the fundation of langauge is the speech that humans produce for interchange their exprience resulting in thoughts and feelings. Coming back to Noam Chomsky who added that language means the ability of creating an unlimited number of sentences that you never enunciate before and to apprehend sentences that you nevre heard before totally new, Chomsky denote this ability as “ THE CREATIVE ASPECT OF LANGUAGE ”.

If we dig deeper for more information about language we find many other definitions in websites that announced : “ language in it sizable sense is the ability, singularity human ability to communicate using a language

likewise Britannica subjoin that language as a system of conventional manual, spoken or written symbols by means of which human beings as a member of a social group and contributor in its culture which means that the 'belonging' of a single social community. Appended to that, the Britannica website has listed some functions of language as follows : the expression of identity, imaginative, feeling and emotional release

## 2.2.Types of language

There are countless sorts of language so we will number only the important ones :

### a.Lingua franca

This type was created in order to allow speakers from different countries and who do not have the same language to communicate with each other .

### b.Pidgin

This one was developed in order to facilitate trade between people that do not have a common language simply 'Pidgin' is a simplified language that was invented for speakers with different languages.

### c.Creole

This latter was derived from 'Pidgin', of course an innovated language which is used by a group of people of all ages as their mother tongue 'Native language'.

### d.Arragot

This kind of language was developed to conceal conversation, originally because of the criminal enterprise, this terminology is closely denoted informal 'Jargon'.

### e.Jargon

This one is very difficult, it is a special word or expressions that are used by particular groups professions or terms which are difficult for others to grasp, for example medical or scientific subjects or terms .

### f. Dialect

This one refers to a regional language that has no rules, it is a way of speaking based on geographical or social factors .

### g.Slang

This type consists of words and phrases that are regarded very informal, it is more common in speech than writing, and is typically restricted to a particular group of people .

### 2.3. Characteristics of Language

Human language is entirely different from animal one. Furthermore it has many characteristics that make it so. Talking about it features it has an uncountless number of features but the following are the most important

#### a. Language is arbitrary

This attribute shows that there is no inherent relation between the word and its meaning, which means that when selecting a word to represent a thing or idea is completely arbitrary however since a word is selected for special referent it will stay as such, for example "Women" in English "Aurat" in Urdu "امراة" in Arabic.

#### b. Language is social

When saying that language is social here we refer to nourishing and developing the cultural side so that we can stabilize human relation. This feature shows language as a possession of a social group that contains a set of rules that allows its members to be connected and interacted with each other.

#### c. Language is symbolic

Language consists of diverse sound symbols that indicate some object, phenomenon or meaning even these symbols are chosen arbitrarily and conventionally accepted and employed words in a language are not just signs or figures, but symbols of meanings.

#### d. Language is systematic

Even though language is symbolic, those symbols are arranged in a certain system. In fact all languages have their special system. In other words all languages have a phonological and grammatical system along with these systems there are several subsystems, for instance within the grammatical system we have morphology and syntactic systems.

#### e. Language is vocalic

Language is primarily made up of vocal sounds only produced by physiological articulatory mechanism in the human body. In the beginning it appeared as vocal sounds only, writing came at the end only for registering those vocal sounds.

#### f. Language is productive and creative

Human language structured elements can be linked to produce new utterances with neither the speaker nor the hearer having made or heard before, and both sides comprehend without facing any difficulties. These words are made for the sake of the need of the society.

Along with these characteristics there are others which are considered to be as less important features such as: Duality which refers to both sound systems and meanings. Displacement which indicates the ability to talk across time and place. Competence

and performance which determine that language is innate in addition to that language is culturally transmitted .

## 2.4. Language Transmission

It is the process which helps to pass on thoughts, feeling ,wishes using a certain language. Usually when saying « language transmission » it is linked with « culture transmission »however there are other paramount means that people use to transfer their messages which are

### a. Speaking

This is the most common mean, it can be direct face-to-face between two or more in the same place as a teacher and his/her students, or it can be indirect by using the phone or recorded voice message by using the internet (E-mail, Facebook, Tweeter..)

### b. Writing

In fact in real life these cannot take place especially in social media between friends or strangers in facebook, generally it could be pre-prepared such as newspaper, articles,books and novels.

### c. Signing

Sign language is mostly used by people who have problems in hearing in first place. This one is systematic, it is relied on manual gestures reinforced by facial expressions. This latter have it own grammatical rules which differ from the spoken language. It decrees how the various hand shape may be combined to convey a meaningful message .

## 3. The Definition of Language Learning

It is the process of developing the ability of mastering and speaking second/foreign language, when talking about language learning we have to mention that it is a conscious process it is something you do it willingly. Many linguists talked about language learning and gave their own theories about it. Starting with Noam chomsky and his ‘‘Universal Grammar ‘‘ (U.G) theory which means all children are born with an inherent capability to one acquire, develop and understand language . Chomsky sees that children at first they possess then afterward expand , they understand language innately no matter the place they raised in. Skinner sees that language learning should be connected with ‘‘Behaviorism’’. In his idea of what he named ‘‘Operant condition’’language learning grew out of the process of reinforcement and punishment. Skinner means with his theory behaviorism or ‘‘B.F’’ that when we say the right thing or the right word we should be rewarded and when we do the opposite we should be punished in more detail everything we learn has it special results or feedback.

Another theory which called ‘‘SOCIAL INTERACTIONIST ‘‘(S.T), this one talk about the development of language focusing on the role of social interaction between adult and children which help in gathering and figuring more new words .This theory was discovered by the soviet psychologist’’LevVycostky’’. Going to the famous person in western philosophy Plato

and his well known theory "PLATO'S PROBLEM", this great philosopher believe that knowledge was something that human being already had "Innate" and this was the appropriate answer to his question or problem which is nowadays is known as "Plato's problem" or as Bertrand Russell summarizes it: "How comes it that human being, whose contact with the world is brief and personal and limited, are nevertheless able to know as much as they do now". Descartes in his turn agreed with Plato's idea, that language is natural. Descartes based his thoughts on the fact that people are largely creatures who interact using language, on the light of this idea the "Cartesian movement" raised. This movement argues that people use language creatively. Yet, many similarities have been found between languages. This may encourage people to learn another language because all what he/she has to do is to find out these resemblances between his/her mother tongue language and the target one in order to start to understand how that language works.

### **3.1. Stages of Language Learning**

In learning anything new you have to follow a set of steps and stages so that you will be competent in what you have learned. Same thing in learning a language. There are general stages each person goes through when learning a foreign language which are

#### **a. Stage One Preproduction**

The "Silence stage" during this period the learner while learning new words he should keep silent this helps him to gain more vocabulary and understand the target language.

#### **b. Stage two early production**

In this stage the learner typically grasp at least 1.000 new words, he/she starts to speak short phrases using those words and at the same time he/she practices to pronounce them correctly.

#### **c. Stage three speech emergence**

This one is about expanding vocabulary the minimum of the words that the learner will know is about 3.000 at this stage, he/she starts to speak in longer sentences in addition to that they will start reading and writing.

#### **d. Stage four intermediate fluency**

At this stage the learners start to think and form responses with the new language. They will speak with that language fluently also improve their reading and writing skills.

#### **e. Stage five advance fluency**

People who reach this stage continue to develop and ameliorate larger their abilities and vocabulary in the target language.

### 3.3. Factors That Impact The Process of Language Learning

It is harder for some persons to learn a new language while it is easy for others, however some important factors influence language learning process which is as follow

#### a. Health and physical status

Learning process is done in a full way when the learner has a good health condition, while the person who has a problem in hearing or speaking he may face difficulties in learning .

#### b. Intelligence and cognitive evolution

Experiences and studies have shown that children with superior intelligence are better in vocabulary, linguistic growth and the construction of sentences. In addition to that they show a great competency in both the structure and length of the sentences, utter and application of the words rightly. Cruickshank Johnson (1958) studies exhibited that the lower the I.Q. the poorer is the speech.

#### c. Gender

Often females show better speech development than males. They demonstrate mastery of speech sounds, also most of the time they talk fluently than boys, while males commit more grammatical mistakes and their pronunciation is less accurate than females .

#### d. Exhaustion

This is divided into two parts physical exhaustion and psychological exhaustion. The physical one happens when the person loses energy or have less relaxation this affect his learning process in a bad way. The psychological side is also very important because when the learner feels bored or lack of motivation this leads him/her to stop the activity .

#### e. Motivation

If the learner find enthusiasm in what he learns, enjoys the way he learns in, or the strategies that are applied he/she will continue to be skillful in that language.

### 3.4. Language Learning Strategies

Many researchers have talked about this terminology, state Wenden and Rubin (1987\_19) «...any sets of operations, steps, plans, routine used by the learner to facilitate obtaining, storage, retrieval, and used information» Richard and Platt think that language learning strategies are «.intentional behavior and thoughts used by learners during learning to better help them understand and learn, or remember new information». According to Farechclaus and Casper (1993 :67) language learning strategies or (l.l.s) are an "attempt to develop linguistic and sociolinguistic competence in the target language ". Simply language learning strategies (l.l.s) is the techniques and the processes that the learners follow or use either consciously or unconsciously to grasp new information or learning a foreign language .

Many scholars have given their classification to the strategies of language learning, we will mention only the important ones in short

### 3.5. Oxford's taxonomy '1990'

It has divided the language learning strategies into two main classes direct and indirect, which is classified as follows :

#### a. Direct strategy

- **Memory**
  - creating mental linkages.
  - Applying images and sounds .
  - Reviewing well.
  - Employing action .
- **Cognitive**
  - Practising.
  - Receiving and sending messages strategy.
  - Analysing and reasoning .
  - creating a structure for input and output .
- **compensation**
  - Guessing intelligently.
  - Overcoming limitation in speaking and writing .

#### b. Indirect strategies

- **Metacognitive strategies**
  - centering your learning .
  - Arranging and planning your learning .
  - Evaluating your learning .
- **Affective strategies**
  - lowering your anxiety.
  - Encouraging yourself.
  - Taking your emotional temperature .
- **Social strategies**
  - Asking questions .

- Cooperatingwithothers.
- Empathizingwithothers .

### 3.6. Stern's (1992) Categorization of Language Learning Strategies

Stern (1992 -262-266) sees that there are five main strategies which he ordered them as follow

#### a. Management and planning strategies

- Decide what commitment to make to language learning.
- Set him/her self reasonable goals .
- Decide on an appropriate methodology .
- Evaluatehis/herachievement.

#### b. cognitive strategies

- Classification /verification .
- Guessing /inductive inferencing.
- Deductivereasoning .
- Practice.
- Monitoring .

#### c. Communicative strategies

#### d. Affective strategies.

#### e. Interpersonalstrategies .

### 3.7. O'Malley's (1985 -582-584) :

language learning strategies was divided by O'Mally into 3 main part :

#### a. Metacognitive strategy.

#### b. Cognitive strategy .

#### c. Socioeffective strategy.

## 4. The Definition of Language Acquisition

Language acquisition is one of the most attract and interest aspects of human development, the term "language acquisition" refers to the way children learn their native language, it is the method by which children gain their mother tongue by their own ability and efforts, it is capacity to perceive and understand the language, moreover it is the ability to produce and use

Language acquisition generally refers to "the first language acquisition" , it studies how children acquire their native language, it can be spoken language or signed language.

Language acquisition includes ways in which the parts of language are put together, it includes also rules. In other way language acquisition known by the ability to achieve the aim of using the language by its varied tools including phonology, morphology, semantics, syntax and even large of vocabulary. Each child has a capacity of acquiring, comprehending and producing any language and this capacity is represented in the human's brain. Many linguists argued that human language capacity is limited, one child is able to comprehend and use an infinite number of sentences which is based on recursion, there are three main recursive mechanisms which are: Relativization, Complementation and Coordination.

Language acquisition usually known by its two principles , the first one is : Speech perception which means the ability to perceive the language, to see the language and to understand the language. The second one is : Speech production which means building up the language by using different systems and styles step by step and this principles start when a child is able to separate or make differences between individual phonemes. The most common question for linguists in child language acquisition is “how this structures or principles are acquired ?“.

Language acquisition considered as a sign of human behavior simply for the reason that non-human do not use language to communicate.

The act of acquiring a language is similar to building up a perspective or worldview through the lense of language we are studying, similar to how a child acquires their first language through the cultural perspective of their native tongue. Every child is different from other in acquiring but most of them faces difficulties to respond quickly and effectively, when it comes to how children acquire their first language they have no answer how that happened, children do not remember getting formal instructions, education or knowledge from anyone, but they see that they are able to understand and comprehend the language that is used and communicate with their parents, friends and everybody in the community.

Many linguists engaged and worked on language, some argued that language is learned and others argued that language is innate. The linguist Noam Chomsky was one of those who believed that language is innate he declared that children are born with innate ability to learn a language, “the key principles of Chomsky's model of language acquisition:1- Everyone is born with the capacity to develop and learn any language. 2- Language development is instinctive. 3- Every child has ‘a language acquisition device’, or LAD for short. 4- The LAD is a tool that is found in the brain; it enables the child to reply develop the rules of language. 5- The rules of the LAD is to encode the major skills involved in language learning, but with a focus on the encoding of grammar. 6- Grammar is a vital skill needed for children to learn language” Noam Chomsky: language acquisition in infancy and early childhood. Website ([www.tutor2u.net](http://www.tutor2u.net)) .

For Chomsky, children use often words and sentences that they have not heard before from adults and they make grammatical errors for example:”I sawed” and “sheeps”, if the child know this step they are in need just to learn other new words and then apply the rules of grammar from the LAD to use and communicate by correct sentences .

*“There are a lack of evidence to support the theory. The theory offers a hypothetical explanation and we do not know where the LAD is located. The model ignores the importance of social interaction. The model cannot explain why individuals with certain learning disabilities such as Down’s Syndrome have delayed language.”* Criticisms of Chomsky’s model; Chomsky: language acquisition in infancy and early childhood. Website ([www.tutor2u.net](http://www.tutor2u.net)).

#### **4.1. language Acquisition Device LAD**

The professor and the pioneering linguist Noam Chomsky put forth an opinion named ‘the language acquisition device’ or in short LAD.

LAD is a tool based on ideas or situations which are possible but not real hard wired into the brain and by this tool children will be able to learn and understand language rapidly. Chomsky used to explain how children can acquire language abilities, also description and explanation for the innate understanding of grammar and syntax all children possess. LAD considered as a theoretical concept, is used to explain how and what are the most likely various of underlying processes that are centered in the human’s brain and have involved in for the reason of making us particularly exception at both understanding and learning language.

LAD was developed in the 1950 by the linguist Noam Chomsky after that it has moved on to the most greater theory which is called “ Universal Grammar” or in short ( UG ) to explain in other side the rapid language development in humans.

In addition to that Chomsky proposed that children are born with “Language Acquisition Device” that contains the basic or essential rules for language. Moreover they are born with the ability of understanding the rules of language and in order to support and prove his theory, Chomsky used to present many evidences. He argued that language is fundamentally similar across all of humanity. For example, each language has noun and verb, each language is able to classify things as positive or negative. Chomsky proposed that errors that children make while they are learning to speak, you would not expect them. For children all sentences should have the same structure like ‘Subject - Verb - Object’, children see that even before they are able to speak their mother tongue by using correct sentences.

The linguist Chomsky noted also that children in all cases apply grammatical rules, even for words which their language putted an exception for them. For instance, the following English words, children pluralize the word ‘Fish’ as ‘Fishes’ and ‘Deer’ as ‘Deers’, even though English language makes exceptions for them.

#### **4.2.Theories of Language Acquisition Device**

With the development of literacy research, language acquisition has gained considerable attention. The process of language acquisition were studied by many theories, various theories of how we acquire language have been observed by different theorists, researchers and scholars, they used to search and discuss the most effective ways of acquiring language that may help children to get their mother tongue, Americans Psychologists and linguists made debates about

how children learn a language and on which theory they based on from different theoretical positions.

In the present parte, we shall present an overview of the most relevant language acquisition theories which are: “ Cognitive Theory” and “Behaviorism Theory” . We will review the major trends in language acquisition theories from a historical perspective. They will be viewed briefly because of their direct association with the most important language acquisition instruction approaches, starting with:

### **a. Behaviorism Theory**

Behaviorism Theory was provided by the linguist Skinner 1957, he argued that the language which based on behaviorist reinforcement principles is the language that is learned by children, where they make a connection between words and meanings. When the child is able to discover the principles of communication such as words and phrases in this case the utterances are positively reinforced ( reinforcement works on correcting pronunciation, it does not concern grammar, as an example, when the child says “food” and the mother will give him/her something to eat, the child will see the result of the used words and the development of the language will be clear). Skinner says that the response of learner came in form of produced behavior and it can be reinforced either with positive or negative feedback. Skinner mentioned that learning can be observed, explained and predicted, moreover educational effects of behaviorism are important in developing basic skills of understanding the language. Skinner argued that the children language through imitation, repetition and reinforcement of achieved linguistics attempts, children who do not practice in order to learn the language and have an imperfect learning usually they make mistakes, so they face punishment which serves as a negative reinforcement. For Skinner both negative and positive reinforcements can shape behavior. There is theory derived from behaviorism called ( S-R ) Stimulus-response, this theory sees language as a set of structures and acquisition as a matter of habit formation.

Linguists in behaviorism theory focused on three main points: the first one is the aspects of linguistic behavior which is clear and easily noticed, the second one is publicly observable responses, and the last one is about the relationships between both those responses and event in the environment.

Traditional behaviorists pointed out that the result of practice, feedback on success, imitation, repetition and habit formation is language learning.

Linguists argued that if a particular response is reinforced, it then becomes habitual or conditioned, as well as, if there is a production in form of correct responses to stimuli, it means that there is an effective language behavior.

In addition to that B.F. Skinner’s classic verbal, verbal behavior ( 1957 ) contains one of the best known attempts to build a behavioristic model of linguistic behavior, according to the linguist skinner, consequences controlled verbal behavior, there istwo form of consequences: rewarding and punishing. Rewarding consequences, when behavior is standard and is increased

in strength and it may be frequency. Punishing consequences, when there is a lack of reinforcement and the behavior in the end is extinguished.

Behavioristic approaches show that no one would agree that the model of verbal behavior of Skinner satisfactory accounts for the ability to acquire language and for the gradual growth of language itself.

The views of behavioristic are unsuccessful in explaining the fact that very nearly each sentence we speak or write is new and unusual, these unusual utterances are even produced by very young children as they play with language, and the same production continues on into adulthood and during the whole period of person's life.

### **b.Cognitive Theory**

Cognitive Theory based on cognitive psychology and present the way in which people think and acquire knowledge and skills. These skills were studied by the linguist Skinner but his work was heavily criticized by Noam Chomsky, the most famous linguist to date. 1950 the period of cognitive revolution, Chomsky argued that if the language acquisition mechanism was dependent on language input alone, children will not acquire things he needs for processing an infinite number of sentences. For example, Universal Grammar proved that children have a natural tendency in knowing how to combine a noun ( e.g a girl ) and a verb ( to play ) into a meaningful correct phrase ( a girl plays ). Hundreds of linguists and scholars were inspired by the chomskian approach ( 1965 ) of language acquisition to search about the nature of these grammatical categories like ( verb, noun...) and the investigation is still ongoing.

Noam Chomsky ( 1965 ) argued that children born with an innate capacity to acquire knowledge, this innate knowledge is embodied in a "little black box" a language acquisition device ( LAD ). With LAD child is able to know the structure of the language by combining the innate knowledge of grammar to the structures of the particular language that is used in their environment. Mc Neill ( 1966 ) argued that LAD consists four innate linguistic properties: a) the ability to distinguish speech sound, b) the ability to organize linguistic data, c) the ability to discover that there are two kinds of linguistic data 'some are possible and some are not', d) the ability to engage in developing the linguistic system.

The focus moves to the linguist Lois Bloom ( 1971 ) who criticized pivot grammar, in which he argued that in telegraphic utterances there are words occur and the relationship between them are only superficially similar. For example, the utterance 'Mommy hat' would describe as a sentence including a pivot word and an open word, the three underlying relations that Bloom sets are: a) agent-action ( Mommy is putting the hat on), b) agent-object ( Mommy sees the hat ), c) possessor-possessed ( Mommy's hat).

He argued that children do not learn superficial word order but instead they learn underlying structures, the utterance 'Mommy hat' could mean to a child a number of different things.

Cognitive theory emerged also by Jean Piaget the Swiss Psychologist ( 1896-1980 ), according to him there are connections between language skills and the stages of cognitive

development. The period of language learning helped the connections to be more clear beside the gradual growth of what Piaget named 'Sensory motor'. In this case child will build an overview about the objects that have an existence which is it clearly independent, after that the child was able to develop the ability to think and understand the nature or value of object which is going to stand for a long time and then the child will try to find out objects that they have seen hidden.

Thinking is considered as one of the outcome of cognitive development, "the intelligent mind creates from experience generic coding systems that permit one to go beyond the data to new and possibly fruitful predictions" New line ( Brunet,1957,p.234).

In addition, the mental changes in a person's mind is directly related to the cognition thinking , so these changes are the result of what we call it cognitive processes. In learning there are many different processes which are outlined by Wilburg ( 2010 ) namely " observing, categorizing, forming, generalizations, decision making and problem solving", these processes help the learners to make sense of the information provided.

Cognitive theory deals with the nature of knowledge itself and it deals with the way of acquiring a language, the improvement and growth of children is facilitated by this theory.

Learners are known by discovering their own mental process and not by observable behavior, all these points are aspects that are learnt by an individual.

Moreover many studies has shown that these are techniques that help children to grow up by taking part in multi-party conversation.

The linguist Wyatt 1965 he describes the speech transmission between both child and adult by underlying four levels which are :

*"A) Psychological level: the feeling of speech partners for each other, their relationship, their mutual expectancies and the respective levels of maturation which determine the choice of words by the speaker and the interpretation of their meaning be the listener. B) Linguistic level: process of words findings; selecting the correct sounds and putting them into correct sequences; putting words into correct grammatical order to form sentences. C) Physiological level: neural activities affecting the speaker's perceptual and motor mechanisms and activating the hearing mechanisms of speaker and listener. D) Acoustic level: sounds waves travelling through the air between the speaker and the listener"*.

For Wyatt ( 1969 ) the child at his/her normal stage of language development he /she engages in almost unending repetition of words, Wyatt ( 1969 ) investigated the role of imitation of mother's speech which has an important function in child's acquisition of syntax, in which the child imitate the speech of the mother differently at different age levels.

Developing the conceptual ability to make a judgments which are relative is one of the most important point for child to be able to use linguistic structure.

According to Clark ( 2009 ) children are able to identify objects, doing actions and recognize faces..... This implies that "*children are setting up representations of what*

*they see and know and they make use of these for recognition and recall, summoning them first with gestures and reenactments of events and later with words” ( Clark , 2009, p. 7 ).*

Therefore, the cognition theory shows that children should be able to represent what they hear, see, touch and taste. According to Clark ( 2009, p. 8 ) “ children must be able to detect similarity or degrees of similarity, a capacity that appears fundamental for all learning “ which means that there are some easy aspects of a language the child is able to master them.

The early grammars of child language ‘Pivot grammar’, it was observed that the child do not use two words together at random but in fact child’s first two-word utterances are two separate word classes. Example, My sweater / My house / All gone , the words on the left-hand side belong to a class, that the words on the right-hand side do not belong to. We can use “My” with ‘ sweater, hors, gone’ but not with ‘that’ or ‘all’.

OPEN	PIVOT	OPEN+PIVOT	OPEN+OPEN
Mommy	See girl	Jacket off	Daddy sleep
Good	See ant	Coat off	Craps eat
Beybey	My sister	Mama do	Mommy drink
Happy	My milk	Daddy do	
Sad	Pretty truck		
Bad	Pretty bike		
Uncle	All gone jacket		

**Table 01: Open and Pivot words.**

Pivot refers to the first class of word, while Open refers to a number of words in the second class.

Generative grammar contains a vary rules some are mentioned as: a) the child use sentence in form of ‘Pivot word + Open word’, b) unlike adult, a child has just a small repertoire of Pivot words, they are used in the first part in the phrase. For example, ‘more pineapple’ or in the second parte in the phrase such as ‘jacket off’.

#### **4.3. Stages of language acquisition**

All children in the world acquire language in stages but these stages are not exactly the same, children while acquiring language do not use the worse word in quality or strength from adult. For them acquiring their native language, linguistic competence develops in stages, from one to another, these stages are:

**a. Perception and Production of Speech Sounds**

Infants show an ability to see or show differences between speech sounds and recognize them, there are contrasts present in the language, infants produce and react by responding to these contrasts even if they are not present. Infants are known by their ability of perceiving most of differences in voicing for both manner and place of articulation, in fact when people use words in a way that makes a lot of noise, infants do not react on these ways which are considered to be nonlinguistic aspects of speech.

In addition infants can learn any language simply for the reason that they are able to perceive sounds that are important for the language they use and even focusing on them, so infants in acquiring their language they start perceiving and producing speech sounds.

**b. Babbling**

Is now considered the earliest form of language acquisition simply because infants are producing sounds based on what language input they receive, at about six months infants start babbling they babble most of time phonemes that do not occur in the language that they are acquiring. The most common consonants around the world are twelve, in linguistic study 95% of babble is composed of these consonants. Infants at age of one year the phonemes used in the language they hear are the only things they babble, while deaf infants always babble with gestures using their hands like hearing infants using sounds to babble.

**c. First Word**

Are generally words with only one syllable consonants-vowel together in one group and this is able to be done after the age of one year, where children are able to understand that sounds are related to meaning and then they begin to produce their first words. Most of children pass throughout a stage named "holophrastic", where more meaning are conveyed by one-word utterances. This puts forward the idea that children realize more language and have information in their mind more than they can express, this is for the one word.

For the two words, it is somehow complicated because there are no object or sign that shows rules for making sentences out of words and phrases and even no sign to show the morphological side, no change in the form of a word to show plural or past tense and pronouns are not common but the rise and fall of the voice in speaking contour extends over the whole utterances.

**d. Segmenting The Speech Stream**

There are things that stop or make the process of improving and achieving language very difficult, so babies must succeed in dealing with all this obstacles that has prevented them from achieving the language. Moreover in order to succeed they must be able to prove and show where word boundaries are.

Arabic-speaking children are able to use stress as a cue for word boundaries, we may say that most of Arabic words has stress; rules of stress of standard Arabic can differ from various dialects, stress in Arabic letter is for double letters and it is called “Shadda (t) الشدة “ which means “Stress” . stress indicates always double consonants in which there is no vowel between them. In pronouncing them, the first consonant is still and the second disappears. For example, ‘ grandmother \_ Jadda ( t ) \_ جدة ’ ‘ imitate \_ kallada \_ قلد ’ .

Like English, in Arabic also stress is very important, for English it is somehow difficult to tell which syllable should be pronounced with stress in the word and English makes this difficult to be understood or explained, since the stress can occur at the level of any syllable, while in most of other languages you can see some limitations on where accents are going to fall in.

Moreover in any language the suitable way to get the stress patterns is by listening to the native speakers and the same thing for the Arabic language but there are some obvious guidelines about Arabic stress.

Arabic syllable are divided into two kinds: short and long syllables; for short, syllable is one consonant followed by one short vowel. As an example, we have the word “Rasama = “(he) drew” this word is composed of three short syllables : Ra-sa-ma and we can say that if syllable is not short so it is long.

For the long syllable, we say that this is a long syllable if there is: a) a consonant plus a long vowel, b) a consonant plus a diphthong, c) a consonant followed by a short vowel followed by another consonant. Such as, “Najaar ‘ نجار = Joiner” the word has two syllables, one short “Na-“ and one long “-jaar”. Another example, “Madrasa (t) مدرسة = School” has three syllables, the first one is long “Ma-“ and the second one is short “-ra-“, the last one is short “-sa”. The last example we take the word “ Madroos ‘ مدروس = Studied ‘ ’ it has two long syllables ‘Ma-‘ and ‘-roos’”.

#### e. The Acquisition of Phonology

Children in most of cases acquire the sounds found often to all languages first, then the less common sounds of the language they use which is their mother tongue. The first thing they acquire is ‘ vowels’ and after that they acquire ‘consonants’ which are carefully arranged in form of: a) Manner of articulation: nasals, glides, stops, liquids, fricatives, affricates. B) place of articulation: labials, velars, alveolars, palatals.

This is for common sounds but there is an expectation about the uncommon sounds which are going to be acquired earlier. Moreover children are known by their ability of noticing and perceiving much more sounds than children can produce in early stage, else children recognize more about phonology than we can teach them by listening to them speak. Furthermore, when children faces difficulties in producing some sounds instead of that they use easier sounds and these changes are rule-governed.

In addition while they are producing words they do not pronounce all the consonants. Such as, (Tiliphon ‘ تلفون = ‘phone’) it is pronounced ( phon ‘ فون ). Another example, ( Bab ‘ باب = door ) it is pronounced ( ba ‘ با ). The repetition of syllables ( ‘ baba ‘ for ‘khobz’ الخبز

‘bread ‘) . in English situation we have repetition of syllables ( ‘ wawa ‘ for water ) and drop the final consonants ( ‘ny ‘ for funny ).

The acquisition of phonology considered as a method used in acquiring language, in which children acquire the phonology of language including all functional aspects of language’s phonology such as precise sound contrasts. Moreover phonology present sounds within set of organized ideas and rules of a particular language. There are three types of phonology, a) articulatory: related to expressing and producing sounds, b) acoustic: related to the transmission of sounds, c) auditive: related to the production of sounds. By time childe develop speech sounds step by step, by using them in communication so speech sounds become more clear, sounds are important in using language, for infants they start to understand and recognize the speech sounds ( phonemes) or creating obstructions that form the word of their language, according to many studies most of children start to know the basic sounds of their native language at age of six months.

#### **f. Acquisition of word meaning**

In general words considered as tool for explaining and presenting meanings, both are signs of external objects or even events, else they use sign to represent the interior meanings orvor general ideas. Moreover many linguists argued that words are conventional and arbitrary social agreement determine precisely meaning of words but they are not determine by similar features and characteristics between a word and what it represents.

The most important step in acquiring word meaning that children must take into consideration while learning, is learning the features that are related and concerned with the class of things that are referred to by the word they are using. Children are known by their ‘overextend ‘ of word’s meaning. For example, they use the word ‘big’ to refer to any size of thing that they can not touch or hold, another example, they use the word ‘ circle ‘ to refer to any closed shape either a rounded or with angles, the last example, they use the word cat to refer to any animal with four legs and fur, so they overextend word based on size, shape and texture but the only thing they do not overextend is color. As they overextend, they also sometimes underextend a word’s meaning such as using the word cat to refer only to pet animals, as if cat were a proper noun.

#### **4.4.Vocabulary acquisition**

When talking about vocabulary acquisition we mean enriching your vocabulary by learning new words and concepts that help you to express yourself in a better way, using polite words. There are many techniques that help in acquiring vocabulary which are: a) Discussion: it is a very important and effective method in helping learners or any regular person to grasp new words .b) Reading: this method is very helpful to acquire new words because when you are reading books, novels or articles definitely its contain new words so its succor you to grasp those words , c) Playing games: there are many games that are designed to reinforce and improve vocabulary, these games were specially designed in order to make learning new vocabulary in an entertaining way, d) Metacognitive strategy: it is somehow related to playing games, when

talking about this strategy we refer to learning through video games . Studies said that this strategy is very advantageous, e) Social strategy it is very useful when you are connected with a native speaker of another language it helps the learner to absorb new terms, in this light the social media play a big role in achieving this strategy.

#### **4.5.The Logical Problem of Vocabulary Acquisition**

In other word language acquisition is a process in which every human being who speaks a natural language had gone through its procedure at very early stage of their lives.

Vocabulary acquisition is not easy to be studied due to many restrictions. For instance, how can one investigate and examine an infant's speech while they still did not acquire the knowledge of language . However, there are many approaches, theories and hypotheses that are proposed in order to find solutions to the problems that faces children while acquiring vocabulary. There are many problems we are going to present some of them briefly because we focused only on the problems that faces down syndrome children.

Problems that faces down syndrome show that it is very difficult to learn a language without knowing things about the language in details, or without being able to learn by having physical and mental opportunities, these problems are :

##### **a.Children With Visual Impairment:**

Visual problems include crossed eyes, children will face difficulties in seeing words or alphabets, so they will not concentrate and their mind will not have a clear vision about the presented words. Sometimes doctors can improve problems just by using glasses, surgery or other treatments.

##### **b.Children With Hearing Loss From Time To Time:**

All children must have hearing examination because some children have hearing loss for the reason of fluid in the middle ear, a nerve defect or both. However, children with these problems will not be able to hear easily alphabets, words, phrases....., so it will be somehow difficult to acquire vocabulary without hearing.

##### **c. Deaf Children**

Deaf children use sign language as a way of communicating information to start using their knowledge about the language used in their environment. However, if parents and people surroundings are using sign language in this case child will pick up the language easily. What attract here is that the child in this situation most often learn and use the sign language better than other normal people simply for the reason that they use it in all times.

##### **d. Lack of Concentration:**

Most of Down Syndrome are known by lack of concentration because of their mental disabilities, that is way children are treated hardly. Moreover, learning language needs much more of consideration and attention to language's details to help the mind to get it. So it is difficult for children to acquire vocabulary if they do not concentrate on the pronounced or written words.

### 5. The Distinction Between Language Learning and Language Acquisition

When we talk about language learning and language acquisition many people think that they are the same however there is a one fundamental difference between these two terms, in more details when it comes to language learning it is a process which done consciously , something you do with all your willing , for instance learning a second language like English , French or any other language in which you have the choice either to learn it or you donot.

There are two systems or perspectives that the human brain work , which are “External and Internal perspectives “ these two systems can determine the interrelationship between language learning and language acquisition . In a way the external perspective gives some features to language learning : it is an intentional process , it is concern with studying and searching about a foreign language, a systematic activity, it goes from abstract to concrete and the final one language learning is a thought generalization ( Ahren and Zascerinka,2010: 7 ) . According to Surikova ( 2007 ) between the external perspective ( language learning ) and the internal perspective ( language acquisition ) there is a balance which means they complete each other . Vigotskis sees that language is related with studying a foreign language but language acquisition is definitely means the native language ( mother tongue ) .

While language acquisition according to ( Maslo,2007:41) it depends on the process of neuro-psychological .

Language acquisition “ *is posed to learning and is a subconscious process similar to that by which children acquire their first language ( Kramina ,2000:27)*”, “*Hence ,language acquisition is an integral part of the unity of all language (Robbins,2007:49)*”.

Language acquisition differs from language learning ,many points were presented to determine the difference between them, that is why Ahrens and Zascerinska pointed out comparison to clarify External and Internal perspectives of language learning and language acquisition :(Ahrens and Zascerinska,2010:7) the comparison according to them is :

#### External and Internal Perspectives:

External Perspectives: conscious, learning, foreign language, systematic, from abstract to concrete, thought generalization.

Internal Perspectives :unconscious, acquisition, mother tongue, non-systematic, from concrete to abstract , object generalization.

*“Scientific concept learning differs from spontaneous concept acquiring as foreign language learning differs from native language acquiring. The development of scientific and*

*spontaneous concepts is interrelated as foreign and native languages relates to each other*  
“(VIGOTSKIS,2002:275).

So acquiring mother tongue is spontaneous step, the language will be developed by spontaneous use of speech and unconscious realization of linguistic forms and their great skills and controls of knowledge .

The distinction between language acquisition and language learning appears at many levels, for language acquisition it is an act done unconsciously and naturally, while language learning in all cases is an act done consciously. Language acquisition known by the fact that children while acquiring their first language (mother tongue) they do not aware of grammatical rules, that is why it is a subconscious process, it does not need extensive use of conscious rules of grammar and does not need boring practices, exercises and disciplines.

The development of natural language by native speakers can be achieved just by the process of acquitting. Language acquisition focuses on communication and based on explicit knowledge, while language learning focuses on the form of language and based on implicit knowledge.

Moreover the most common point is that the learned language is formal because of it's rules, structures and formal use. However the acquired language is less formal. On the other hand language learning actually is about the ability of speaking, writing and reading the target language in more formal way, grammar and vocabulary.

## **6.Conclusion**

To sum up,we have devoted this chapter to introduce some of the definitions of language by several linguists such as Noam Chomsky, Bloomfield and Fernand De Saussure.we talked about the origin of language we also listed it features and types.Our main focus was on language learning and language acquisition. These two fields show a remarkable shift over the last years .so first we gave a general explanation about language learning then we mentioned its main theories that were made by these famous linguists Skinner,Noam Chomsky and Lev Vygotsky. After that we searched about its stages then we moved to the strategies that were invented to help in language learning, reaching to the difference between the two field language learning and language acquisition. Second we have defined language acquisition moving to the different theories of language acquisition devise ‘‘LAD’’ by diverse linguists like Noam Chomsky,Skinner and Wyatt after that we pointed out language acquisition stages,subsequently we gave a brief definition to vocabulary acquisition, we also have suggested some of the techniques that help in acquiring new terms. Ending with the logical problems of vocabulary acquisition, here we mention some of difficulties and problems that the child may face. We can find out some solutions for these problems for normal children but for children with special needs it affects their development in a bad manner like children with down syndrome.

**Chapter 02**

**Collecting data about  
down syndrome  
children**

**Chapter 02 : collecting data about down syndrome children****1. Introduction**

In this chapter we are dealing with the general description of Down Syndrome including its types, causes, physical features, treatment and many other important points about it. Moreover, in this chapter we will see the hidden relationship between speech and vocabulary acquisition and if one of them completes the other or not. We aim at noting, defining and describing strategies of using vocabulary as well as communication skills. Although the aim of the present work is to demonstrate the most common difficulties/challenges that face children with Down Syndrome while acquiring vocabulary. In general, the focus here with more preciseness is about the use of verbs and nouns by Down syndrome.

**2. The Definition of Down Syndrome**

Medically speaking, there are genes that are responsible of how our body looks and works, they are the basis of everything, starting from hair color to how you assimilate your food. However, if any problem happens to them can cause bad consequences, the case of Down syndrome.

**2.1. Down Syndrome Malady**

Down Syndrome (D. S) or trisomy 21. People with this illness are born with an extra part of the third copy of chromosome 21, this genetic disorder may lead to range issues that influence the body both mentally and physically. In more details, it causes mental retardation and malformation. It occurs once in every 800 to 1.000 live birth also more than 350.000 people in United State alone have Down syndrome.

**2.2. History of Down Syndrome**

Initially, Jean Etienne Dominique Esquirol ( 1838 ) and Edward Seguin ( 1844-1846) were the first who reported about Down Syndrome, but their description was not sufficient enough until a British physician John Langdon Dawn gave a full and clear description about this kind of individuals in 1866.

Various terminologies were invented in order to identify them like: Mongolism, Mongolian, Idiots, Imbeciles, Langdon dawn, so that nineteen international experts including Norman the grandson of John Langdon Dawn collectively they send a request to the lancet proposing that the name should be changed to "Down syndrome". In 1965, the World Health Organization adopted the suggestion, at the request of the Republic of Mongolia because they consider those terms such as Mongolism and Mongolian are disparaging, Down syndrome became the universal accepted as standard terminology.

At the time of the discovery of Down syndrome, those children were sent to a specific institution. Most of the time, they were sent away just after they were born. They did not obtain the suitable medical treatments in the institutions so that the majority of them often die during

infancy or early adulthood. However, in 1932 the Dutch ophthalmologist Waarden Burge with the assistance of the American geneticist Davenport, postulated that this illness might be due to chromosomal abnormalities. Their work paved the way to several genetic studies along with the Karyotyping invention in 1950, it became very easy to study chromosomal abnormalities. Some the investigator like Jerome Lejeune and Patricia Jacobs and other colleagues expand the study of genetics and finally they came up with medical treatment that assures the diagnosis Down syndrome.

**The foundation national association for Down syndrome:**

In 1960, a woman called Kay McGee after her daughter was diagnosed with Down syndrome formed the very local organization that support and protect the right of those individuals. Kay and her husband Marty chose not to institutionalize their daughter. Alternatively they started to search out for parents that their children were diagnosed with Down syndrome and that gave the rise to the “National Association for Down Syndrome” ( N.A.D.S) an organization that gives the true value of those with Down Syndrome and support them.

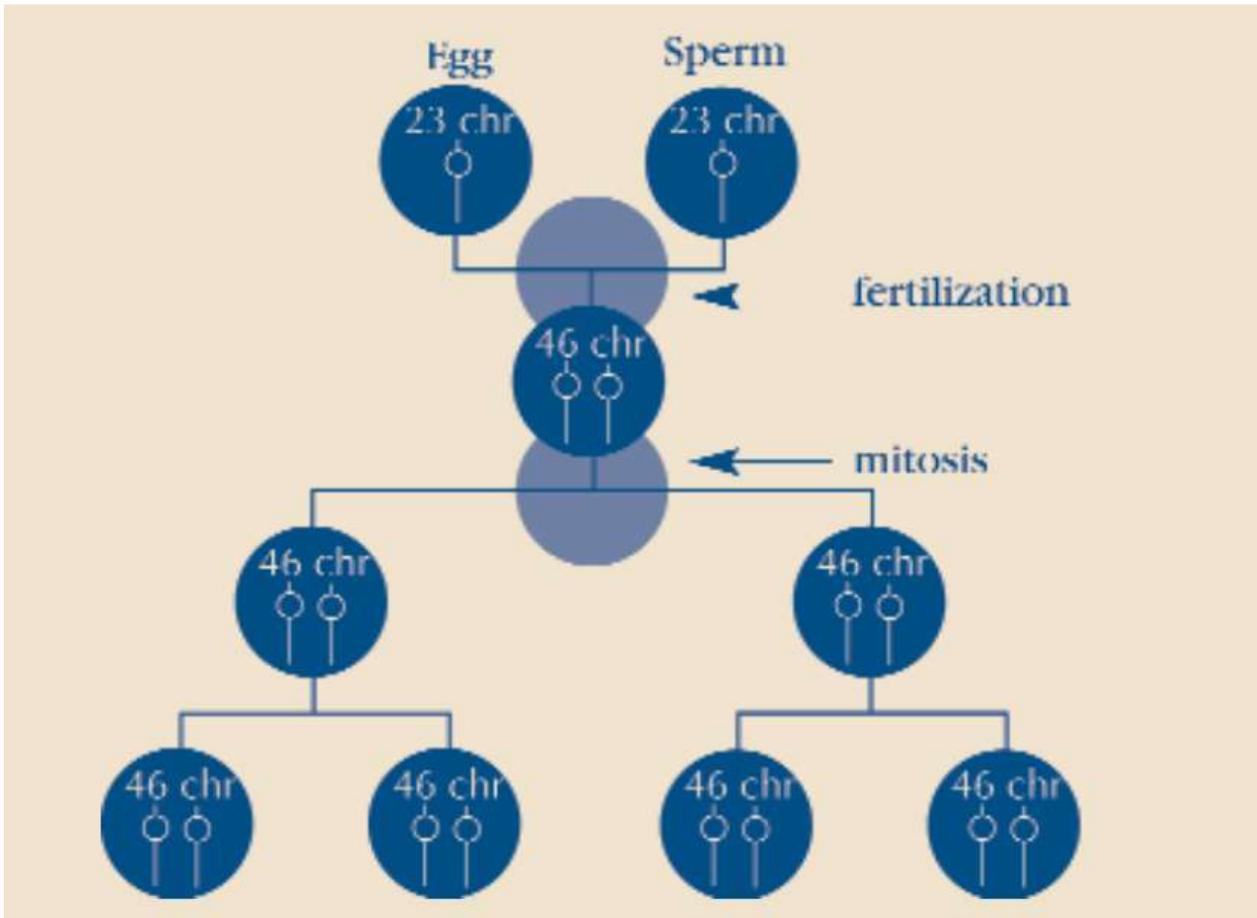
**3. Causes of Down Syndrome**

As normal, there are 230pairs of chromosome in each cell in human body, typically in each cell there are 46 chromosomes 23 hereditary from the father and 23 hereditary from the mother. In the case of Down syndrome, their illness is caused by “Non-disjunction”.

**3.1 Defining “Non-disjunction”**

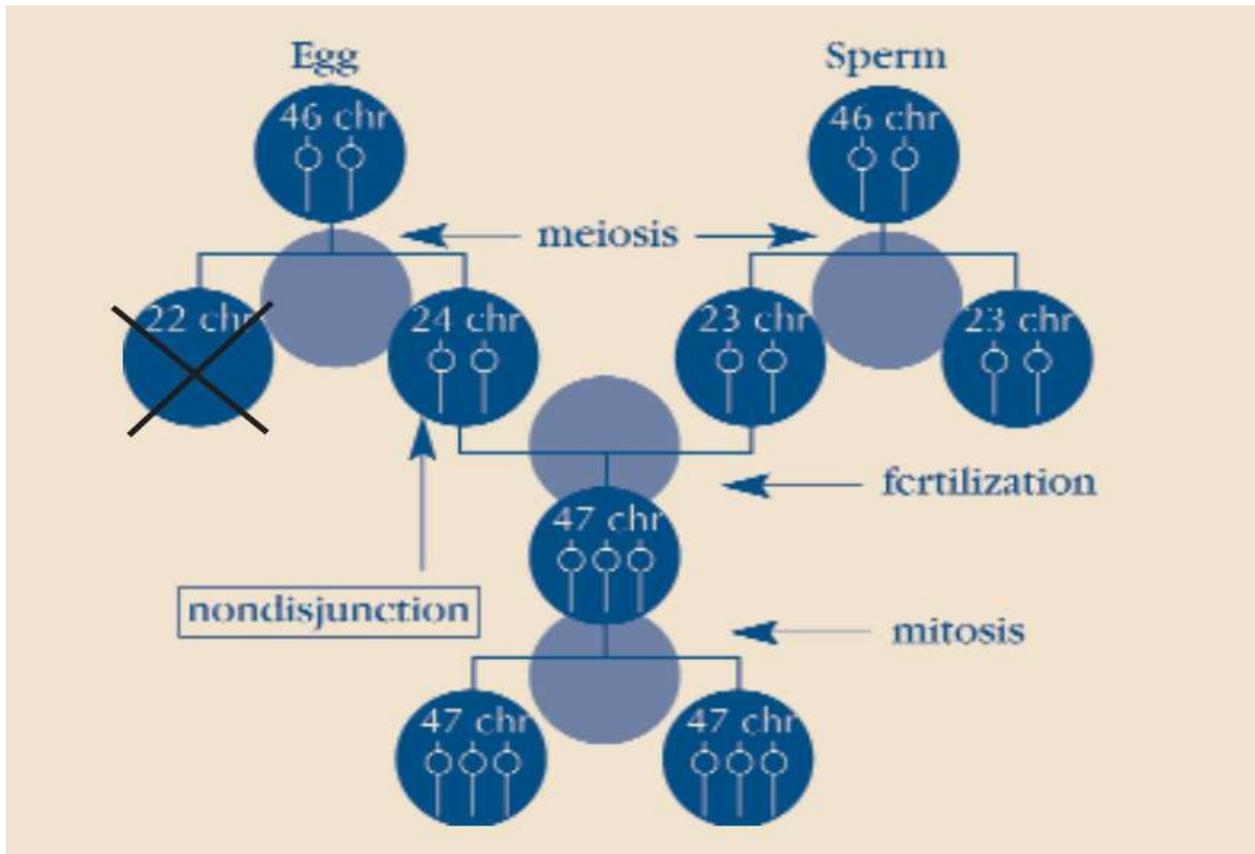
The division of cells gone wrong, so instead of two normal copies of chromosome it results three copies of chromosome, before or at the inception of pregnancy the pair of 21<sup>st</sup> chromosomes in either the egg or the sperm fails to be detached. As the fetus grows, the additional chromosome is proliferated in all body cells. About 95 percent of all cases of Down Syndrome is caused by this cell division error.

In the following two figures we will see the difference between normal cell division and non disjunction:



**Figure 01: Model of normal cell division presented by National Down Syndrome Society (N.D.S.S), New York, NY 10012. Website: [www.ndss.org](http://www.ndss.org).**

In this figure there is a clear description for fertilization period, the 23<sup>rd</sup> chromosomes from both the egg and the sperm integrate. The 46<sup>th</sup> chromosome is the result of the pollinated egg. The cell copies itself and divides into two cells with 46 chromosomes and this happens during meiosis. This is for normal cell division.



**Figure 02 : Model of Non-disjunction presented by National Down Syndrome Society ( N.D.S.S), New York, NY 10012. Website: [www.ndss.org](http://www.ndss.org) .**

The figure shows that in non disjunction case, the pair of chromosome fails to separate in meiosis period which is concerned with both egg and sperm cells where they copy and divide themselves, non-disjunction appears in both 21<sup>st</sup> chromosome which is carries from one cell and none for the other.

### 3.2The Reason behind of Non-disjunction

The reason behind “Non-disjunction” is presently obscure, late research has related the incident of Down syndrome with the age of the mother, in more details when the pregnant is over 35 years old she is expected to give birth to Down syndrome baby, however many people disclaim this study because almost 80 percent of children with Down syndrome are born to women under 35 years old.

So up till now, even with years of research about this illness the main reason behind non-disjunction is still anonymous.

**4. Types of Down Syndrome**

There are three main types of Down syndrome, people most of the time cannot know the difference between each type only by looking at physical features because they are somehow the same. So having a look at the chromosomes can give you the right view, these three types are:

**a. Trisomy 21**

According to American statistics, trisomy 21 is the most numerous type and there is about 95 percent of people with down syndrome known by trisomy 21. Every cell in the human body has three copies for 21<sup>st</sup> copy of chromosome divided into different parts, in place of two copies that most often should be excited in normal human's cells, there must be two copies for 21<sup>st</sup> copy of chromosome. That is why this one is considered as the most common type for Down syndrome and it is also known by the name of "Non-disjunction Down syndrome".

**b. Mosaic Down Syndrome**

This type affects about 1 percent of the people with Down Syndrome. Mosaic means mixture or combination, this mixture contains 47 or 46 chromosomes. For this type, some of children's cells 21<sup>st</sup> copy of chromosome have three copies, while other cells have only two copies for 21<sup>st</sup> copy of chromosome. What is common is that children with this type have the same physical features like other children with Down Syndrome but they have just a small number of features because of the existence of many cells usual number of chromosomes. This type is also known by the term "Mosaicism".

**c. Translocation**

Translocation Down Syndrome excites with a small percentage of children, it is about 3 percent. This type excites when 21 copy of chromosome is complete and present and this complete copy translocates on chromosome 14 instead of being a separate chromosome 21. It is clear that this translocation indicates complete symptoms of Down Syndrome.

**5. Mental and Physical Features of Down Syndrome****a. Mental Features**

Down syndrome children are different from other normal persons, they have a specific characteristic that makes them unique, in fact all children with special needs have specific language features. Starting with the most important one, Down Syndrome children are stronger in receptive language more than expressive one, they face difficulties in syntax but they are very good in acquiring vocabulary, however they have problem in showing that. Some researches prove that in Down Syndrome children case, there are skills which are impaired beyond expectation for non verbal cognitive level, these skills are: expressive vocabulary, phonology, receptive and expressive syntax and some grammatical aspects.

Both children and teenagers with Down Syndrome children produce shorter and less complex utterances based on their non verbal mental.

**b. Physical Features**

There are many physical features of Down Syndrome. People often can know the difference between Down Syndrome and normal children by means of these features without any difficulties, some infants with Down Syndrome have only a few of these physical features, while others have many, some of them include:

- Flat nasal bridge
- Tall forehead with narrow temples
- Downward slant of palpebral fissures
- Flat back of the head
- An almond shape to the eyes caused by epicanthic folds of the eyelid
- Dysmorphic round face
- Short, broad nose with depressed root and full tip
- Small, irregularly shaped mouth
- Full lips with high wide peaks to the vermilion border of upper lip
- Deeply grooved philtrum
- Growth failure to the mental retardation
- Single palmer crease, short fifth finger that curves inward
- Short and broad hands
- Many loops on finger tips palm crease
- Wrinkled tongue
- Dental anomalies
- Widely separated first and second toes and increased skin creases
- Unilateral or bilateral absence of one rib
- Excess skin at the nape of the neck
- Separated joints between the bones of the skull
- White spots on the colored part of the eye
- Flat occiput
- Intestinal blockage
- Large head compared to face
- Wide-spaced eyes
- Epicanthal folds
- Upward slanting eyes
- Brushfield spots on iris
- Microgenia
- Small, abnormal ears
- Macroglossia and protruding tongue
- Simian crease
- Unilateral a bilateral absence of one rib
- Small and arched palate big tongue
- Special skin patterns
- Small chin and short neck
- Decreased muscle tone at birth
- Single crease in the palm of the hand
- Umbilical hernia
- Abundant neck skin
- Abnormal pelvis

- Diminished or omnshed muscle tone
- Congenital heart disease
- Hypothyroidism
- Learning difficulties and development delay
- Cardiac defects in 50 percent (ventricular septal defect, patent ductus, arteriosus, atrial septal defect)
- Respiratory infections
- Big toes widely spaded/enlarged
- Atlantoaxial instability
- Alzheimer’s disease can occur
- Increased risk of leukaemia

## **6. Therapies and Treatments for Down Syndrome**

Children with Down syndrome have no medical treatment that cures their illness, doctors and speech therapists tends to use some therapies for the reason of helping children even though using educational support to make their life better and every treatment depends on the natural world where children they live, the age, the condition of a child’s body or mind, the quality or degree of being strong and the attenuating circumstances.

The most common point is that there is no normal standard medicament or treatment for child with Down Syndrome but even treatments that are used most of time based on the needs of child, so in this case they cannot solve all children’s problems but they will be able to reduce the symptoms, physical pain and helping them to develop their mind by facilitating the act of perceiving, comprehending and producing vocabulary, any child with down syndrome needs a special therapists. Parents, professionals and speech therapists need much more of alerts and energizing in dealing with them, children with this illness are like any other normal children; they have physical and social activities, starting with:

### **a. Early intervention and Educational Therapy**

The term “Early intervention” indicates to a group of particular instructions that speech therapists present and suggest for children with Down Syndrome and for their parents and families. Speech therapists present different therapists such as: speech therapists, occupational therapists .... Moreover, Down Syndrome children have the right of education under the federal law, IDEA which means the Individuals with Disabilities Education Act (2004), it is an act that gives the right of learning and different educational services for children with disabilities like the case of Down Syndrome, the law proves this system with limited period from birth until the age of 21 as a maximum and all programs of this law are presented under very stricter points such as:

- Children with Down Syndrome should have noticeable learning deficits which deserve to be exceptional programs of education and parents may learn how to deal with children and examine them by seeing the degree of acquiring vocabulary through special education coordinator.
- If Down Syndrome children are able to do certain services, parents, teachers and speech therapists may help them by creating an Individualization Educational Plan (IEP).

Individualization Educational Plan includes detailed and precise learning goals for children Down Syndrome and this educational plan always based on child's needs.

- There are specific, appropriate schools for children with disabilities and such needs, some schools contain children most of them do not have disabilities and other schools are specially for children with needs, parents have the choice where they put their children and psychologists, speech therapists and many other professionals can help them to take the decision.

### **b. Medical Treatment**

Most of children with Down Syndrome have problem with heart, simply for the reason that they are born with congenital heart defects, so children with this problem are treated by speech therapists and doctors specialized in diagnosing and curing heart problems according to heart's condition, because some conditions do not need any kind of treatment; while others can be cured.

### **c. Educational Therapy**

Educational therapy is used to indicate the most common aspects of Down Syndrome that are afforded through many programs. In the first flight line, not just one educational therapy is considered as a solution for all children with Down Syndrome and this point should be well understood by both parents and speech therapists. In educational therapy there are two types of education, the first one is "individual education" and the second one is "collective education", some children in order to acquire and develop their vocabulary they need to spend good long time with group and just short time with individual education; while there are other children need much more time with individual education and a short time with collective education. In educational therapy there are two cases for children with Down Syndrome:

- Children under the age 3 are suitable to get services that are known by their gradual growth by state-run. Moreover, these services are presented in form of programs called by "Federal Mandated Programs" and they are renowned by different names. For example, in Massachusetts this program is named "Early Intervention", controlled and managed by the Massachusetts Department of Public Health.
- From age 3 to age 21, in this period children are able to reach educational encouragement by their general school system.

### **d. Physical and Behavioral therapies**

There are many therapies obtainable to mention all behavioral, physical and communication child's needs and there is a possibility of having remarkable positive effects on child's learning and development, these therapies include:

- **Occupational Therapy**

It is used to demonstrate motor skills as using parts of the body like head, hand... In other words, it is about body language and gestures, this technique helps child to deal and communicate with other easily. Occupational therapy designed especially for improving skills that are necessary for child to interconnect with others by words, gestures and other

communication tools, even in other side it is helpful for them to do their performance of daily tasks and work independently such as eating, walking, getting dressed ..... The focus in this therapy is on writing skill .

- **Physical therapy**

This therapy is used for developing physical activities and acts of children, increasing muscle strength and helping them to work by practical use of limitations. The focus here is on improving a person's acts simply because children with Down Syndrome have poor muscle tone so they need this kind of therapy for strengthening, toning muscles and doing daily activities.

- **Speech therapy**

This therapy is especially used to develop communication and language skills through concentrating articulation, cognitive skills and developing oral muscles for tongue and lips by strengthening them for correct pronunciation of vocabulary such as (lower case, upper case). Speech therapy improves the child's ability to communicate by using vocabulary such as imitating words and sounds. In addition, it may aid and infant breastfeed simply for the reason that breastfeed considered as an important way to strength muscles used for speech. Moreover, children with Down Syndrome are able to comprehend words and language in general, even before they can produce words they want to communicate, this theory helps children to use sign language and pictures to communicate and react, until they learn to speak and use word. Communicating considered as a continuing process, so if children with Down Syndrome learn to communicate in school, they will benefit also from this therapy later in their life. For example, they will be able to improve conversation skills, comprehending, perceiving, pronouncing, acquiring and remembering vocabulary.

- **Emotional and Behavioral Therapies**

These therapies are used in order to control and solve both behavioral and emotional problems, so by this therapy professionals and parents will find available answers of likeable behaviors, sometimes children face problem with communication and it is difficult for them to understand some vocabulary. It is difficult to use them and even most of them do not know how to express something they feel and because of these difficulties children with Down syndrome feel depressed, spiritless and other mental health issues. It is somehow complicated to understand and know the reason behind avoiding child with Down Syndrome to carry on with treatment and prevent all this difficulties by using new strategies, this therapy works on regarding and treating children with this situation. For the emotional side, there are mental health professionals capable and present to help children with Down Syndrome to deal with these difficulties and solve them, for the behavioral side, children with Down Syndrome faces changes in the level of their hormone what makes them more aggressive and squabbled during puberty and this situation is hard to be solved, there are behavioral therapists work on teaching children to recognize and control their behavior in good way.

**7. The Use of Vocabulary by Down Syndrome Children**

Down Syndrome children use vocabulary and gain knowledge/ skills to produce words at a slower manner than typically normal children, for this reason people around them should work together in order to help them to move further in the same direction of acquiring vocabulary and using them in better way. In this part we will see the way of using one word by Down Syndrome children, the next view will be about combining words to make simple two and three word phrases. Many studies inform parents that their children start to combine words only when they have in their background about between 50-100 word vocabularies, either spoken or sings words.

**8. The Case of Using One Word and Two Word Phrases**

Professionals proposed three techniques for Down Syndrome children who are able to use single word namely: oral motor skills, horizontal and vertical language development. The first one is about oral motor skills and making sounds; it is very helpful for child's speech and makes the production of vocabulary more comprehensible and reasonable. The second one is horizontal, when people (parents, doctors...) want to help their children to improve and develop all concepts of the language that are used and evolve vocabulary skills at the level of one word, they do that by connecting children and affixing them in many language experiences and it can be easily done by the utilization of any new words with new situation, so the benefit from language experiences to develop their vocabulary. For example, when parents are in every time trying to go out with their children and start naming anything in front of them such as: flowers, cars, trees, sun, house.... And doing certain actions that are suitable for them like: smiling with others, smelling flowers, hearing voices.....in this case parents are engaging their children's senses in acquiring vocabulary according to what they are seeing and hearing.

Moreover, parents are providing new words while they are playing with children by using words slide, under, up, behind....to give statements for what is happening. The third one is vertical development, it is considered as the most important technique, it helps children in their daily life and parents are benefiting from it. Vertical development is about helping children to combine words together and formulating two and three word phrases, most of Down Syndrome children start to combine words between ages 3-5 years. The most excellent method to help children with Down Syndrome to combine words and make two and three word phrases is by using imitation with expansion and there very useful ways for this method. Taking as an example, repeating what children say, while parents are repeating every word, children will see that their words are comprehensible and correct by this way parents are motivating their children to acquire and use more words. Another way, is expanding what children are saying in only one single word.

All parents are able to use imitation with expansion many times to help their children to know how to combine two and three word phrases even before they start to use two words. For example, if child says milk, parents say drink milk, if child says coat, parents says dress the coat.

Another way to help children with Down Syndrome in combining words is using a technique called a pacing board, this technique considered as a system of using few words or an action in a play or conversation that is a signal for children that provides both visual and tactile ways of remembering number of words that children may use them to make two and three word phrases, it may consist more than one dot used by different colors in form of pieces of cardboard and this two colored dots includes words or shapes of anything else that children like. Parents while using imitation with expansion are pointing at the pacing board to indicate the word they are using. For example, pointing to the first dot by using the word “small” and the second dot by using “ant”, by this way children are able to acquire more words and know how to combine them together quickly by relying on the pacing board.

Pacing board considered as a very helpful method for Down Syndrome children simply for the reason that they use their senses such as” listening strength, visual strength, touch strength...”, to acquire easily words and know how to use more than one word. The same situation for children who are able to produce two words, parents work on helping them to use three words. For example, one word “cake”, two words “mommy cake”, three words” mommy prepare cake”. It is possible to use both techniques of imitation with expansion and pacing board in helping Down Syndrome children to acquire more vocabulary and combine more than two words.

The last important point is the use of carrier phrases with children such as “I hear” and “I want”, so that children will try to add only one word to express what they want.

### **9. The Influence of Down Syndrome Children on the Development of Vocabulary**

Children with Down Syndrome work hard and try their best in order to affect the vocabulary development in a positive way. They work on their speaking language so effectively from the early years to show that they are a part of this world, so most of the time they use gestures to compensate for their spoken language.

Here are some of the efforts that they do in order to impact vocabulary development in good way:

- Down Syndrome children face struggles with speech production so they try some therapies directed to motor control of the tongue, mouth and vocal tract as well as exercises to emphasize using gestures and sounds.
- They find learning the meaning of words from sentences tough so specialist noticed that they grasp a huge number of words from games. In addition to that it is as amazing way to learn.
- The prosperity of verbal memory during childhood is delayed for Down Syndrome children, this one affect learning words and grammar negatively, so they submit to memory training courses in order to increase the short verbal memory.

- The anatomical differences for Down Syndrome (differences in skull shape, jaw palate and tongue size and problems with the motor skill development and fine motor control), also contribute in the difficulties that Down Syndrome children have in developing a clear and meaningful speech, for this purpose they use treatment courses in order to increase oral motor skill from infancy.

### **10. The Difficulties that Down Syndrome Children Face in Acquiring Vocabulary**

Every day, individuals with Down Syndrome achieve wondrous and ordinary things, they are like any normal person and they have dreams and wishes for their future life and the determination to reach them. However, they face many problems that may pose obstacles to do, so one of these obstacles is facing trouble in acquiring especially obtaining new vocabulary which may leads to delay in their development.

Here are some difficulties that Down Syndrome children face in acquiring vocabulary:

#### **a. Hearing and Visual Impairment**

These two points are the most needed and helpful in acquiring new words every day. Hearing impact talking badly as Sue Buckley said having hearing loss causes nearly 30-40 decible decline, so that consonant will disappear this is what Down Syndrome children suffer from.

Vision is the main factor in gaining new terminologies so that we find the majority of Down Syndrome kids wear glasses. As Sue Buckley describes:”.....if a child is very short sighted and his mom says “look at the dog” and he cannot see across the road, it will impact learning terms” so short sighted contribute in acquiring and learning dely.

#### **b. Verbal Short Memory**

For Down Syndrome children “verbal short memory” is more impaired than the other normal children. This feebleness may have bad consequences, it may result a restricted sage of vocabulary, incomprehensible utterances this is happening for the minority of them because the majority their speech characterized by short utterances length, they cannot speak fluently simply for the reason that they find difficulty in producing and storing new sentences, lastly they face struggle in reading and math skill.

All researchers argued that most of children face certain problems on the phonological side of their memory, which relates to non-verbal abilities, this point though to be the most effective in their speech and vocabulary difficulties. The phonological loop plays an important role in ameliorating vocabulary and speech for any normal child, besides, it controls the word sound pattern this enable the child to link this with the meaning and store it. Unfortunately this do not happen for Down Syndrome children because the phonological loop affects negatively both vocabulary and grammar learning.

**c. Luck of Attention and Distractibility**

Luck of attention and distractibility affect children's acquisition badly because with less attention you will not grasp or obtain more information and new terms. The majority of Down Syndrome kids suffer from distractibility and they cannot concentrate on one point, this is a big impediment in learning development.

**d. Speech and Language**

In normal cases, by the time of two or three years old child starts to develop communication in order to engage socially. However, in this case of children with Down Syndrome spoken language is not likely to occur for the majority of them and this because they do not have much vocabulary and it is so difficult to learn new words so that they suffer from using spoken language (never the less some of those individuals may develop some spoken words to interact with others).

**e. Impact of Language Delay**

As a child start learning to talk each new word they heard or be tough is new concept or new piece of information about their world, once they attach these words together and the most importing is to know how to joint hem, their speech will be powerful and they will be ready to communicate easily. For Down syndrome children they cannot learn a lot.

**11. Learning Strategies of Down Syndrome children**

As we know children with Down Syndrome need a special provision in order to show progress in their learning, they simply need to learn in the correct environment with the correct materials. The specialist in the field have listed some strategies that have been shown to be effective, if both of parents and teachers work with these technique it will present a good result. These strategies are:

**a. Building Self-esteem**

The majority of Down Syndrome children have lower self-esteem because of their physical features, so teachers and parents should exploit every opportunity to uplift self-confidence in them and instill pride through variety of techniques.

**b. Decrease Distraction**

All children with special needs, not only Down Syndrome children, are often distracted, so the teacher have to use some tactics that reduce distraction such as keeping the child away from the window, keeping the noise level down, using a structured environment and having a orderly classroom so that the child do not feel confuse and do not face surprises which means he now the rules, routines and expectations.

**c. Making Conversation with Down Syndrome Children**

Down Syndrome children have troubles in talking clearly, so it is important to communicate with them, giving them new words and correcting their mistakes, this practice is able to help them speak clearly and coherently.

**d. Inclusion**

Seek to make learning environment comfortable, the classroom is the place where each student feels a part of the group regardless their age, level or intellectual disability. When he finds his classroom comfortable he will interact positively with other mates, so the environment of teaching is so important for the development of Down syndrome children.

**12. Strength Points that Helps the Development of Vocabulary**

Although, children with Down Syndrome face some difficulties that pose a problem in their vocabulary acquisition, they have enumerated strength point that allows them to continue fighting their obstacles and these strength points are:

- Visual short memory and visual processing, Down Syndrome kids comprehend information and learn more using visual materials, so that children are categorized as visual learners.
- They have high capacity of empathy and social understanding which means that they can interact with others in their first months of life using babbling and cooing. Moreover, they can sense the non-verbal cues of emotion like facial expression and tone voices rapidly more than normal children.
- Children with Down Syndrome have receptive comprehension language than expressive one because of the lack of vocabulary.
- Social treats, unlike other children with normal needs such as “Autism Spectrum Disorder” which creates difficulties in social attachment, Down Syndrome children are very sociable, they are enthusiastic to attract other people and this reason makes them qualified to learn more.

**13. Down syndrome and the Development of Vocabulary**

Down syndrome or trisomy 21, the most common syndrome in the world, they can be observed in different stages and levels of knowledge, comparing with typical developing (TD) which means the development of normal child, Down Syndrome are known by their lower lexical, receptive and expressive performance, their vocabulary development is much more complicated, but even with all this difficulties, a child with Down syndrome is able to use words, phrases and develop the acquired language.

STAGES	EVALUATIONS	VISUAL SUPPORT
Sensorial coordination	Children are able to pick up and put together things with stimulation	With visual support
Constitution of object permanence	Children are able to know the location of things	With visual support
The use of gestures and body imitation	Children are able to perform same visible gestures and actions of others	With visual support
The imitation of any utterances	Children are able to imitate sounds	Without visual support
The use of symbolic schema and different imitation	Children are able to perform some actions for particular sounds, making sounds with identifying the source easily	Without visual support
The reception of vocabulary	Children are able to identify words, pointing objects	Without visual support
Producing vocabulary ( words and phrases)	Children are able to name figures, describe and adding words in communication	Without visual support

**Table 02: The Development of Vocabulary Acquisition with Down Syndrome Children.**

The table shows the stages of acquiring vocabulary for Down Syndrome, these stages are divided into two parts, the first one is the acquisition with visual support of parents and other people, while the second part is about the acquisition without visual support. In each stage children get new words and reach new level.

**14. Conclusion**

The acquisition of vocabulary by children with Down Syndrome is considered as a very complex process, where developing the diverse strategies that may help them is important. In fact, the act of acquiring vocabulary must be introduced and solved from any obstacles. Down Syndrome children must be trained to acquire vocabulary, brainstorm and produce their words in different ways for different situations.

As for New Prospects, since the various health and mental difficulties set back and obstruct the acquisition of vocabulary, a new therapies, methods and techniques must be designed in order to help children with Down Syndrome to acquire any language easily.

So we come to the final conclusion that the impact of Down Syndrome children on language development appears strongly on the language itself. We understand that the result of this impact moves through different stages and the reason behind it for children is to be effective in society like any typical developing (TD) of normal children. It is true that the acquisition is an unconscious process but for parents and speech therapists it holds priority and organized methods and the straying away from them can lead to the negative impact for Down Syndrome children, simply for the reason that children with this disability are not like normal children in both physical and mental features, they need guidance and certain methods to acquire vocabulary, for them it is difficult to get any word without help.

So there is the need to look into the acquisition of vocabulary in order to integrate new approaches and techniques with more explicitness where they can contribute to a great degree to the development of diverse acquiring strategies of any language without any difficulties, for the first and the last reason “helping Down Syndrome”.

Educational therapy is mentioned as the most useful therapy but not as the only sufficient one. It represents offered programs which are divided into two forms of education the collective and individual education and children are asked to use one of them according to their needs. As declared by many professionals, children with this illness are given a number of activities to be used in their daily life. In addition, there is the speech therapy, it helps them to develop their skills of communication, control their perception and production of vocabulary and do it in the right way. At the end, both parents and speech therapists will mark their role, work and identify where much more efforts is needed.

What has been considered is that the process of acquiring vocabulary is not that much easiest for Down Syndrome children. Studies especially about this side are not completed and not clearly defined. Additionally, it seems that this case is in need to be in the picture under any circumstances.

On the whole, we believe that the acquisition of vocabulary has a positive effect on the development of language by Down Syndrome children. If parents and professionals do all their efforts to create and build new strategies, Down Syndrome children will be in safe from any difficulties. Moreover, these strategies must be mentioned and clearly explained for everyone how it must be used, they must help each other to fight all the obstacles that are met by Down syndrome children.

# **Chapter 03**

## **Data Collection and Analysis**

### Chapter 03 :Data Collection and Analysis

#### 1. Introduction

The present research is concerned with the acquisition of vocabulary by Down syndrome children, the research instruments used to prove the hypothesis stated earlier are a questionnaire addressed to speech therapists and educators who are professionals in the field and a classroom observation to witness the ways of acquiring vocabulary. The participant's opinions and views are very helpful in the current investigation because they know this kind of people and know how they grow up and how they develop their language gradually. In this chapter, we are dealing with the results and findings of this study as well.

#### 2. The Research Tools

In this part we are presenting the research tools, which are: The questionnaire and the observation.

##### 2.1 The Speech Therapists and Educator's Questionnaire

Various tools are used in any research to facilitate the collection of information. The questionnaire is considered as the main important tool for gathering data about the research problem. Brawn (2011.p.6) defines questionnaire as "any written instruments that present respondents with a series of questions or statements to which they are react either by writing on their answers or selecting from any existing answers" (quoted in Dorny 2003.p.3). A questionnaire was designed because it is easier than any other tool. In addition, it has many advantages. For example, compared with other research appliance, it is very practical and efficient, they save much time and efforts. In addition, it is easy to code and analyses data.

In this research the questionnaire is mainly designed to figure out speech therapists' opinions about the acquisition of vocabulary by Down syndrome children.

The questionnaire is a set of 20 mixed questions (open and closed ended questions) divided into three sections. The first section was devoted for the language capabilities of Down syndrome children. This part has several types of questions. The second section is concerned with the acquisition and the communication of Down syndrome children. The last section deals with the development of their vocabulary and techniques that are used in order to help them in acquiring words. The Questionnaires begin by asking the participants personal information. For example, gender, age and teaching experience.

##### 2.2. Classroom Observation

In order to achieve our study we conducted an observation with the help of a checklist. It was done to explore the way of acquiring vocabulary by Down syndrome children and we looked for the strategies and methods that are used by them while acquiring, also it was done to discover the difficulties that they face.

## Chapter 03 Data Collection and Analysis

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The observation data were taken from two Psycho-Pedagogical Centers, in order to obtain the data, the following observation procedures were adopted:

- Attending classes for three months.
- Visiting two Psycho-Pedagogical Centers.
- Attending at least 6 classes.
- Taking notes and observing children.

### 3. Research Design

In any investigation or study, generally the research goes through a group of related interlinked phases, which together make up the design of the research. Our research is composed of three chapters. The first chapter presents the literature review of both language learning and language acquisition, language acquisition is the central theme of our research. The second chapter introduces “Down Syndrome children”, which are the case that we specified to make our study about. The third chapter is about collecting data analysis, it is considered as the soul of the research, because it is composed of the research problem and the suggestions that may solve the problem. The research plan indicates and mentions the strategies which has been taken to the general plan of several different collections of data and the usual and proper ways used in the analysis of data. In order to shed some light on the most common problem (s) under investigation. The goal that should be achieved is to acquire data that will provide answers for the research questions to encourage information and to develop for the reason of facilitating understanding the problem. The research is about discovering the ways that are used by Down Syndrome children to acquire vocabulary and observing the most difficulties that face them while acquiring. In order to help children and help both professionals in the field and parents. The results of the research will not be the same simply for the reason that children with this illness have different abilities, different mental problems, different physical problems and different levels. Thus, in this sense, the research design can be defined as “the procedures for conducting the study, including when, from whom and under what conditions data were obtained. Its objective is to provide the most legitimate, precise answers as conceivable to research questions (MacMillan & Schumacher, 1993:31).

### 4. Research Methodology

*“Method can be understood to relate principally to the tools of data collection or analysis; techniques such as questionnaire and interviews. Methodology has a more philosophical meaning, and usually refers to the approach or paradigm that underpins the research”*(Blaxter, Hughes & Tight, 2006, p. 58).

When you form a good methodology for your investigation, you will get the proper results. In the present work we blend various approaches. The analysis paradigms are divided into two main paradigms the qualitative and therefore the quantitative. We consider this mixture as an appropriate way for our study because when you use diverse methods to collect data, you will gather more and better information. Beside this, it provides us with different answers from different perspectives. As Mackey and Goss (2005.164) state;”the use of multiple research techniques and multiple data sources contribute to credibility of the investigation”.

## Chapter 03 Data Collection and Analysis

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The questionnaire will be distributed to speech therapist and educators so that they will provide us with more data and statistics about Down Syndrome children; whereas the qualitative method is by the employment the room observation, the observation is specified for Down Syndrome children, we do it in order to take notes of their way of speaking, know how much vocabulary they acquire and produce and the structure of their speech.

### 5. The Participants

Marzuki (1997: 43) states that using the sampling method can generate a better research because it can make the research cone more specific. The technique employed in this analysis is sampling. Simple sampling is the basic sampling technique wherever we tend to elect a specific group of people (sample) for the study, we have included in our sample the speech therapists, educators and Down Syndrome children.

This study is done at two Psycho-Pedagogical Centers, The First one in Tiaret- Algeria, the second one in Dahmouni-Tiaret-Algeria. The participants of the study were two speech therapists both of them are females and forty eight educators, the educators comprise thirty six females and twelve males, with different teaching experience and age.

### 6. The Purpose of the Study

The purpose is to show the ways of acquiring vocabulary by Down Syndrome children and the strategies that are used to help them. Moreover, the aim was to present the most common difficulties that face them and how to solve them. There is another important purpose which is building new methods to help children in developing and acquiring vocabulary. This study also explored perceptions and attitudes of teachers toward this development. This study focuses on three main aspects:

- Ways that are used in acquiring vocabulary by Down Syndrome children.
- Difficulties that Down Syndrome children face while acquiring vocabulary.
- Strategies and methods that are proposed to help Down Syndrome children to acquire vocabulary more easily.

### 7. The Research Questions

The research questions raised in this study are:

- Do Down Syndrome children acquire vocabulary like typically developing individual?
- How Down Syndrome children use vocabulary and express their needs?
- what are the difficulties that Down Syndrome children face while acquiring vocabulary?

### 8. The Research Hypothesis

We put forward hypotheses which states that children's methods in expressing their needs are not incorporated to the full extent of their potential in all ages. Knowing that these methods are essential for children with Down Syndrome to improve their language and express their

needs, but more importantly, other typically developing individual who acquire vocabulary do not acquire vocabulary like Down Syndrome children.

Acquiring and producing vocabulary are much more difficult for Down Syndrome children simply for the reason of their mental retardation problem, to have access in expressing needs, children produce vocabulary but the production is not easy for all of them. Children need to develop necessary skills and strategies to guide any produced word in which they use different ways. Such as the use of sing language instead of words, using body language while speaking, the use of different sounds in order to express their needs, while others relying on simple words.

When talking about acquiring vocabulary, it is necessary for children to overpower all difficulties that may face them. For example, lack of concentration, lack of confidence, hearing loss problems and visual impairment. By and large, our concern in this study is to study ways of acquiring vocabulary by Down Syndrome children. We need to test out these points: For speech therapists and educators; do they truly help Down Syndrome children to acquire and develop their vocabulary? Do they truly rely on different methods and techniques? Do they truly focus on problem solving? If yes, are these methods and techniques that help them in acquiring vocabulary faithfully implemented?

### 9. Analysis and Discussion

#### 9.1. Analyzing and Discussing the Participant's Questionnaire

##### Personal Information

##### Gender

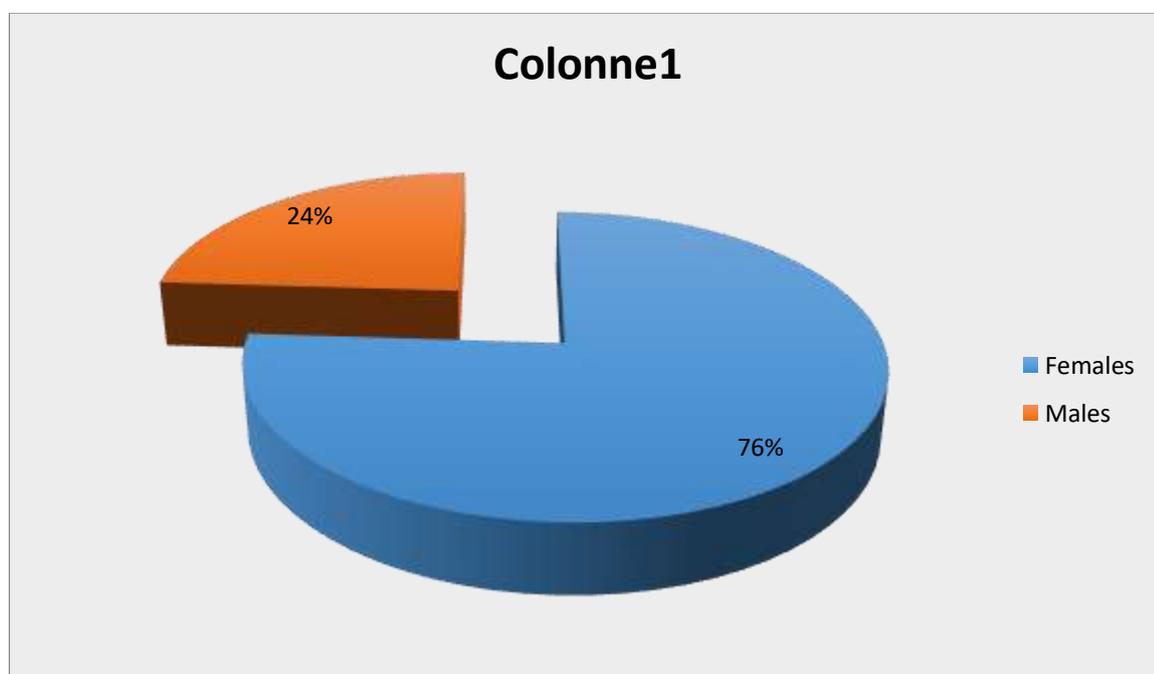


Figure 03: Participant's Gender

## Chapter 03 Data Collection and Analysis

The respondents have been asked from the beginning to indicate their gender. As it is indicated in the figure above, the majority of informants are females rated by 76%, and only 24% are males.

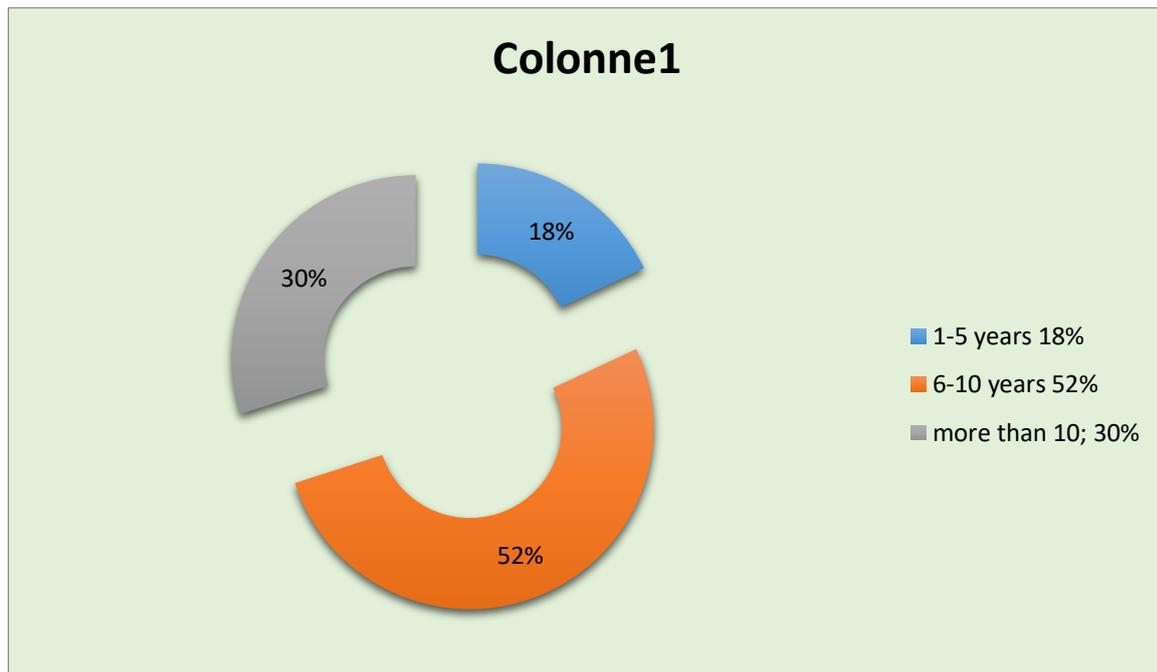
### Age

Age	Number of informants	Percentage
( 23 - 28 )	13	26%
( 29 – 33 )	17	34%
( more than 33 )	20	40%

**Table 03: Respondent's Age**

Second item reveals respondent's age. Twenty respondents which present the majority their age is more than 33 years old, seventeen respondents their age range between (29-33) years old whereas only 13 of them their age range between (23-28) years old.

### Teaching Experience

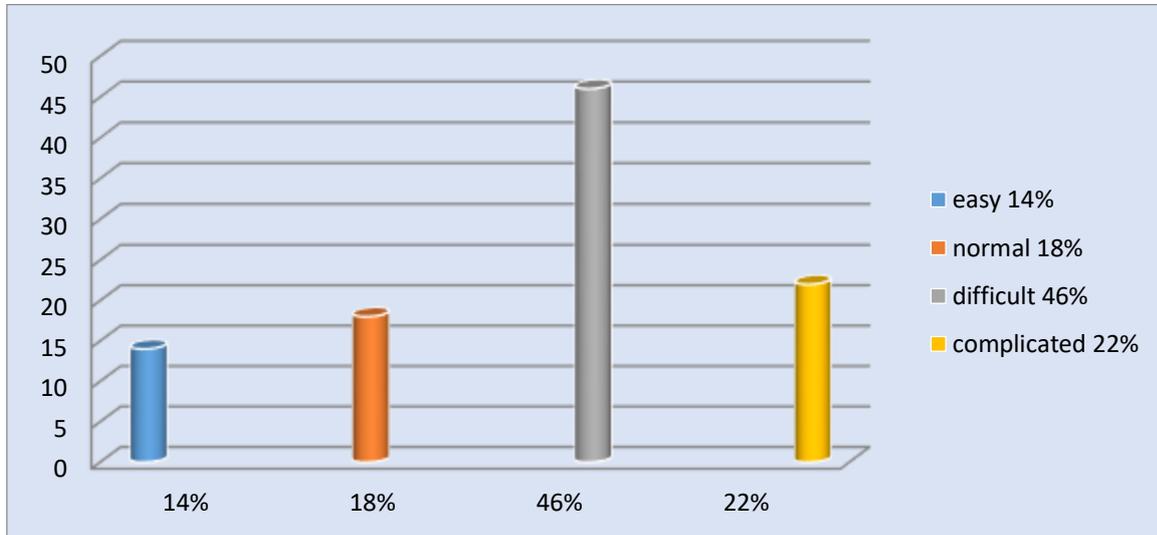


**Figure 04: Participant's Teaching Experience**

The majority of the participant's experience range between 6-10 years (60%) whereas a 30% of them have more than 10 years of experience and the other 18% of them have 1-5 years of experience.

### Section one

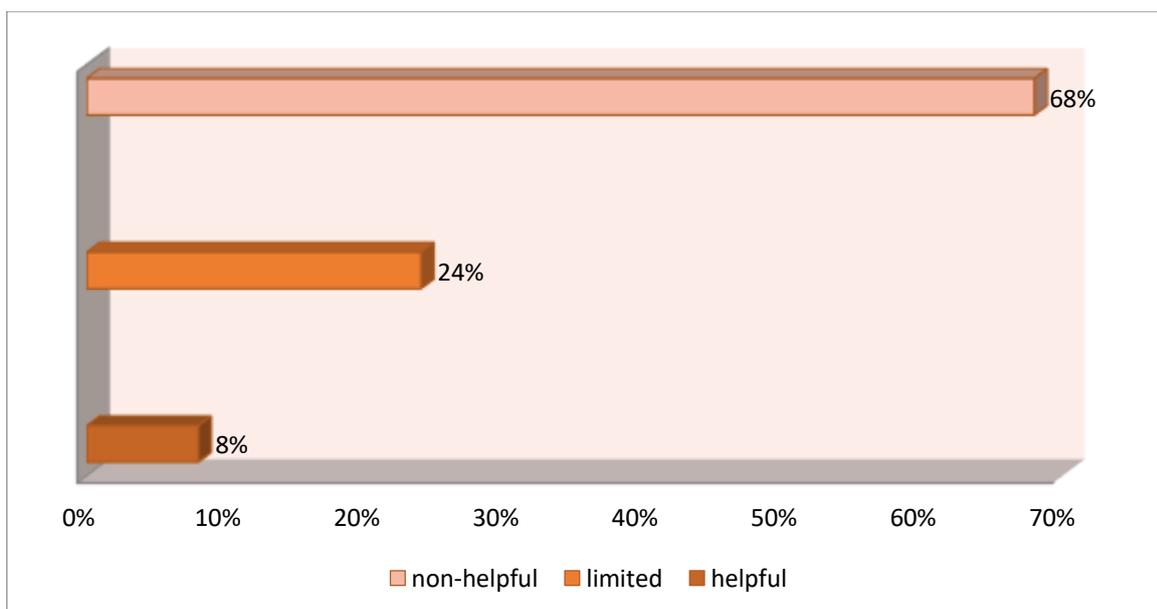
**Item 01: Do you think that dealing with Down Syndrome children is: easy – normal – difficult – complicated.**



**Figure 05: Dealing with Children**

From the figure above we notice that 46% of speech therapists and educators see that dealing with Down Syndrome children is difficult, whereas 22% saw that it is much more complicated, we noticed that 18% of them saw that dealing with Down Syndrome is normal and only 14% declared that it is an easy and there is no problem. Their varying answers show that not all children are the same and in order to deal with them, each child need special way.

**Item 02: How do you find concentrating on vocabulary to develop Down Syndrome children's minds?**

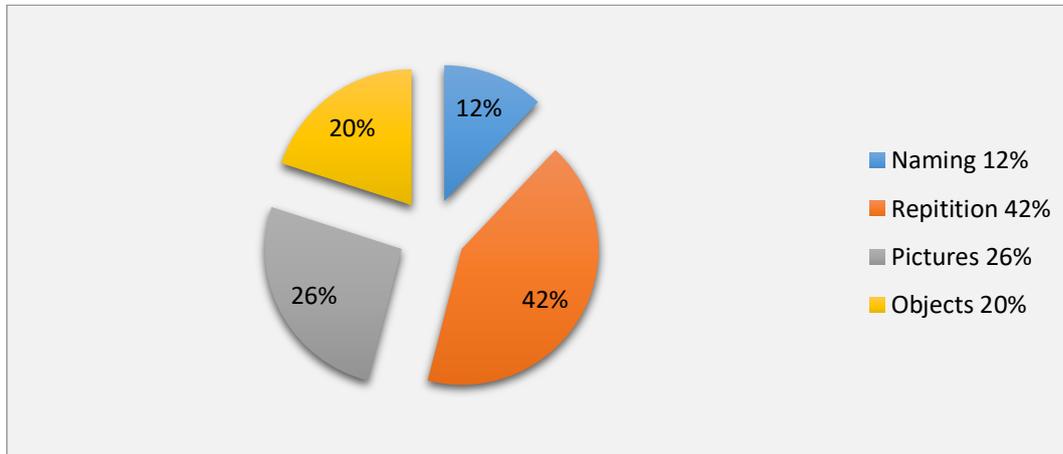


**Figure 06: Concentrating on Vocabulary**

## Chapter 03 Data Collection and Analysis

The majority of the speech therapists and educators (68%) stated that the concentration on vocabulary is very helpful for Down Syndrome children to develop their minds, and 24% declared that it is limited, while 8% of them stated that concentrating only on this point is unhelpful at all for children if they want to develop their mind or their language.

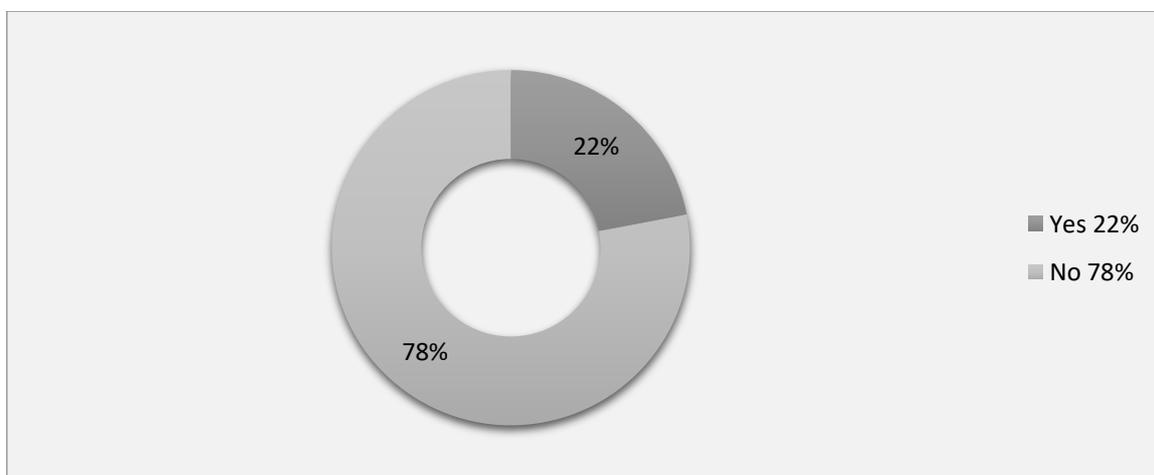
**Item 03: Do you think that the best way to make Down Syndrome children understand the word is by: naming- repetition- pictures- objects**



**Figure 07: The Way of Understanding Word's meaning**

The previous item shows that 42% of speech therapists and educators find repetition is the best way to make children understand the meaning of words, whereas 26% stated that using pictures is the suitable solution to make them understand the meaning, we noticed that 20% prefer the use of objects and only 12% declared that by naming things, children will get the meaning of the word. The respondent's answers explain the reason behind using different methods to make Down syndrome children understand the word's meaning, their different mental abilities allow them to use different ways. For example, naming, repetition, pictures and objects.

**Item 04: Are Down Syndrome Children able to Acquire a Second Language?**

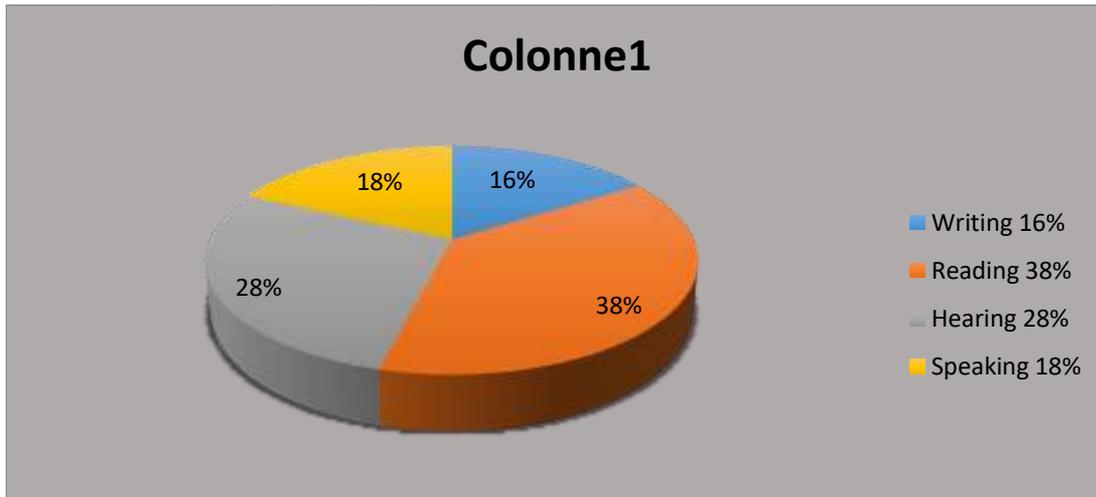


**Figure 08: Acquiring the Second Language**

## Chapter 03 Data Collection and Analysis

Seventy eight percent of the speech therapists and educators stated that children with Down Syndrome are not able to acquire a second language because of their mental retardation, lack of concentration and other difficulties such as suffering from hearing impairment and problems with speaking skill which effects the development of the acquired language, whereas 22% chose yes as an answer because they found that children with Down Syndrome are able to acquire the second language like any other normal children.

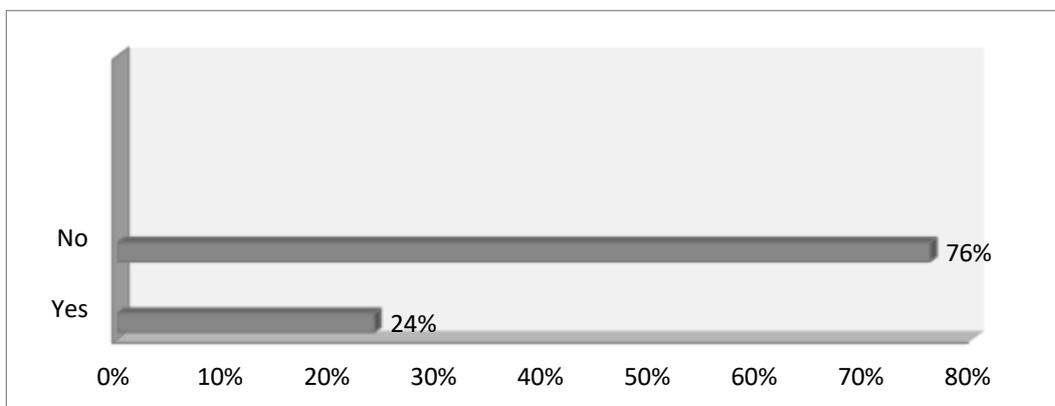
**Item 05: Which one of these skills Down Syndrome children is able to master? Writing-reading- hearing- speaking.**



**Figure 09: Down Syndrome and Skills of Language**

The above figure shows that 38% of educators and speech therapists find that children are able to read and reading for them is the skill that they really master better than any other one, while 28% of them chose hearing, whereas 18% chose speaking and only 16% declared that children are able to practice the writing skill. The varying answers show that children with Down Syndrome master different skills (writing, reading, hearing and speaking), which improve the existence of their different abilities like any other typically developing individual.

**Item 06: Can we integrate Down Syndrome children with other normal children in schools?**

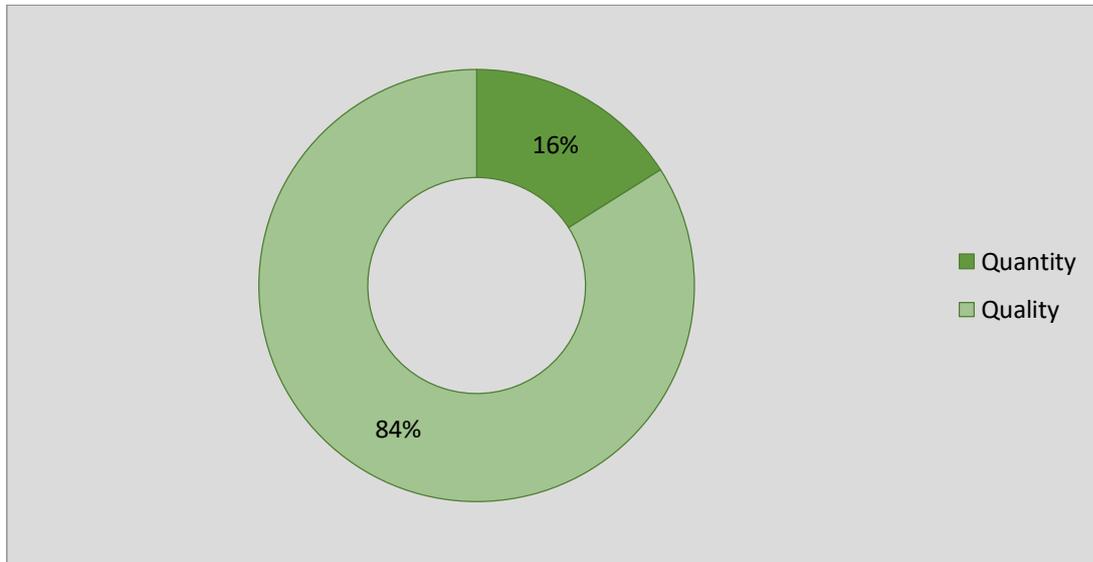


**Figure 10: Integrating Down Syndrome in Schools With Other Normal Children**

## Chapter 03 Data Collection and Analysis

The majority of the participants (76%) stated that children with Down Syndrome should not be integrated in schools with other normal children, whereas 20% chose yes as an answer. Most of the respondents answers agree the idea of integrating Down Syndrome children with other normal children in schools, which means that this idea is possible.

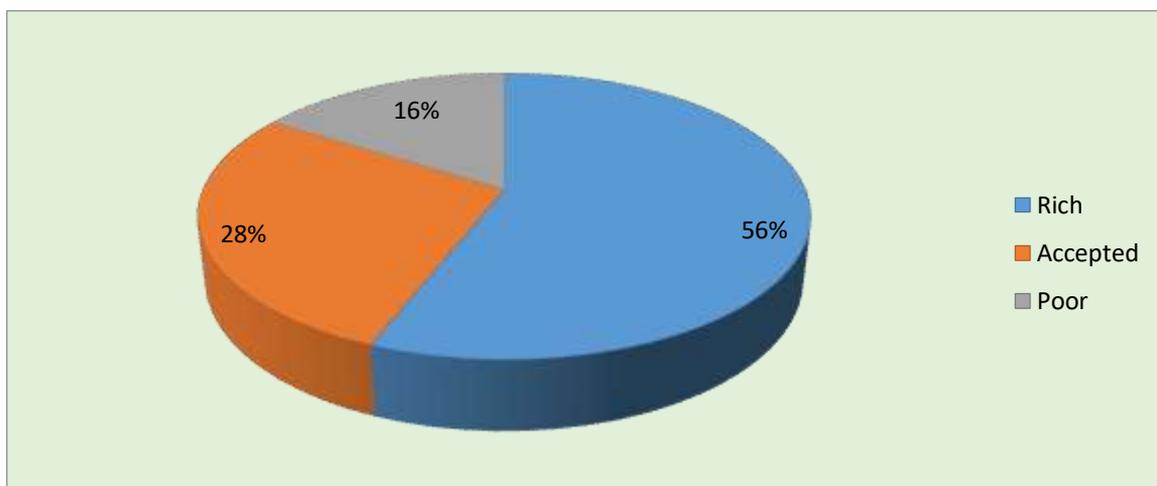
**Item 07: Do you see that Down Syndrome children should concentrate on: quantity of vocabulary or quality of vocabulary?**



**Figure 11: Quantity and Quality of Vocabulary**

Eighty four percent of the participants stated that the concentration on the quality of vocabulary and very important to help children to acquire and develop their language, whereas only sixteen percent of them preferred concentrating on the quantity of vocabulary. Our respondent's answers improve that concentrating on the quality of vocabulary is necessary for children with Down Syndrome more than the quantity.

**Item 08: According to your knowledge, the ability of Down Syndrome children in acquiring vocabulary is: Rich- Accepted- Poor.**



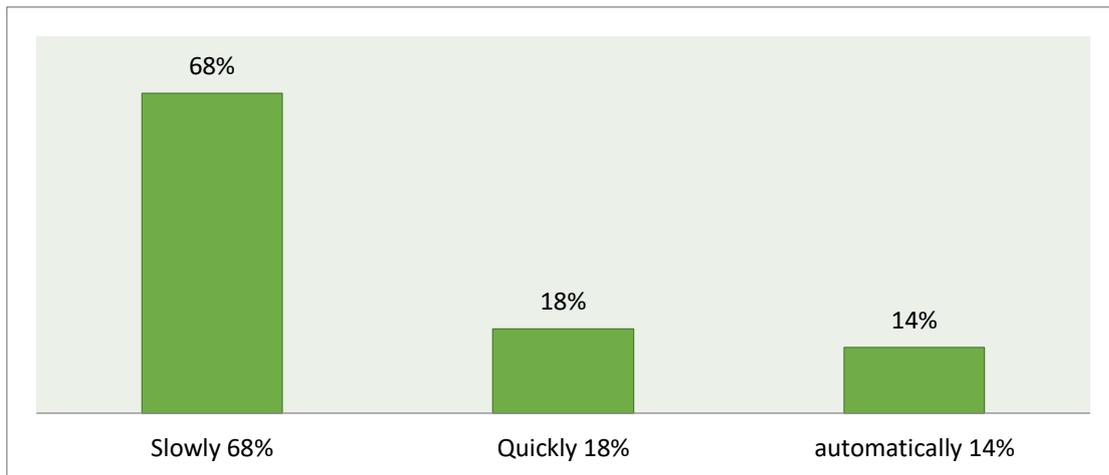
**Figure 12: The Ability of Acquiring Vocabulary**

## Chapter 03 Data Collection and Analysis

From the item above, we noticed that the educators and speech therapists (56%) see that the ability of children in acquiring vocabulary is rich, whereas 28% saw that this ability is acceptable and only 16% of them declared that this capacity is poor. We noticed that children's abilities in acquiring words are totally different, because they have different mental problems and different needs. Most of children have rich ability and they can acquire terms easily.

### Section Two:

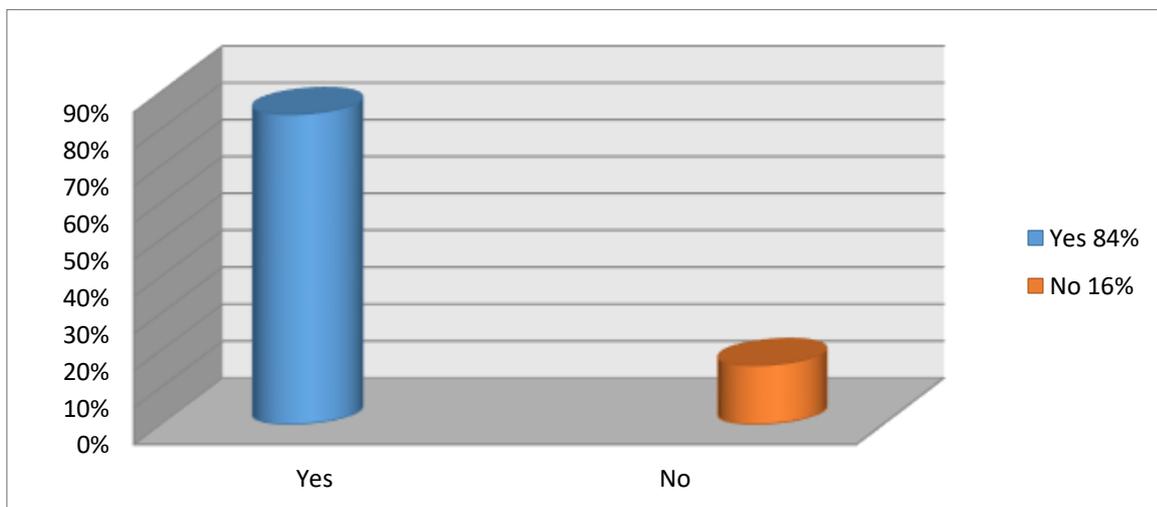
**Item 09: Do you think that Down Syndrome children produce vocabulary: Quickly- Slowly- automatically.**



**Figure 13: The Production of Vocabulary**

Sixty eight percent of the participants stated that children with Down Syndrome are unlike normal children, they produce words slowly, whereas eighteen percent of them stated that children use vocabulary quickly in all cases and only fourteen percent of the declared that any child with this illness use vocabulary in automatic way.

**Item 10: Does the acquisition of vocabulary allow children with Down Syndrome to live their daily life like any other normal people? Yes- No, If "yes" why?**



**Figure 14: Down Syndrome and Their Daily Life With Vocabulary**

A percentage of 84% of educators and speech therapists stated that if children with Down Syndrome acquire vocabulary they will be able to live their life like any other people because vocabulary helps them to communicate easily, facilitate for them doing certain jobs, it helps them to express themselves and they can show what they are capable of. They are just like us they have dreams and feelings and all what they need is to convey these things by vocabulary, whereas only 16% of the participants stated that vocabulary alone is not enough for them and they chose No as an answer.

### Item 11: Do you think that Down Syndrome children express on their feelings and emotions by: Words- Sounds- Signs- Crying.

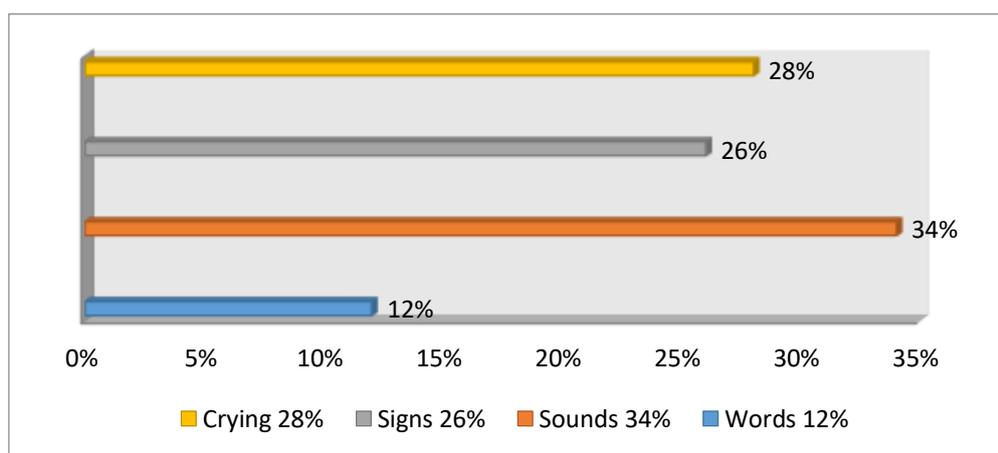


Figure 15: Expressing on Feeling and Emotions

The previous item shows that 34% of the participants find that Down Syndrome children express on their feeling and emotions by producing certain sounds and 28% of them declared that children cry, whereas 26% of them see that children use signs to express what they need and only 12% of educators and speech therapists stated that Down children use words. Respondents' answers show that children express on their feelings and emotions by using various ways (words, sounds, sings and crying), generally children have many attitudes and modes and we cannot determine the answer by one choice.

### Item 12: Down Syndrome children communicate with others by using words: Always- Sometimes- Rarely.

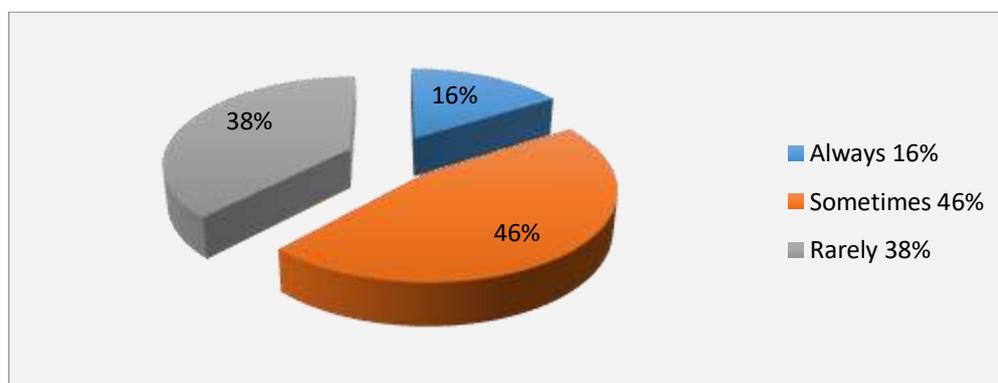


Figure 16: Communication and Words

## Chapter 03 Data Collection and Analysis

Forty six percent of the participants stated that children sometimes use words in order to communicate with others, whereas thirty-eight of the participants see that children in communication rarely use words and only sixteen of them say that they always use words. From the various answers above, we notice that the use of words in communication is not used by all Down Syndrome children. Most of them do use words and the other do not.

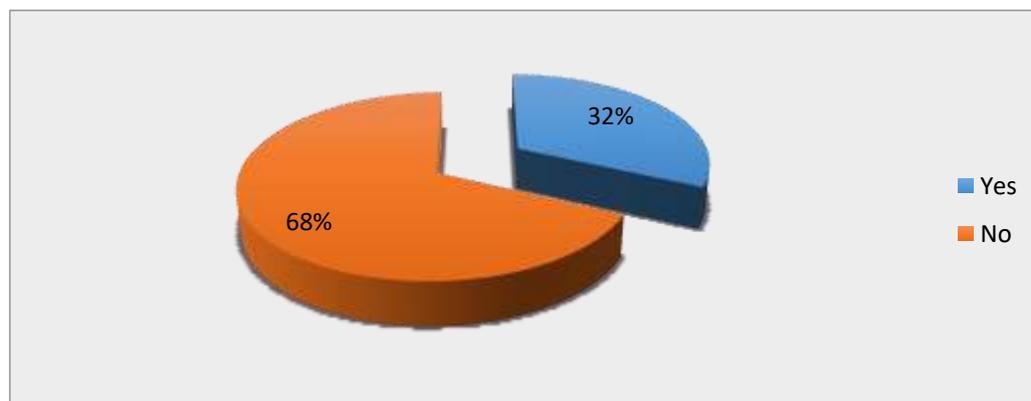
**Item 13: Do you think that the most common problem that Down Syndrome children face is: Concentration- Writing- Producing vocabulary**

The Problem	Number of Informants	Percentage
Concentration	32	64%
Writing	14	28%
Producing vocabulary	04	08%

**Table 04: Problems that Down Syndrome Children Face**

Sixty four percent of the participants declared that the concentration is the most common problem that Down Syndrome children may face while acquiring any language, whereas twenty eight percent of them see that the writing skill is the only problem that any child with this illness may face and only eight percent of the participants declared that what Down Syndrome children are unable to do is producing vocabulary.

**Item 14: Are Down Syndrome children able to communicate and react with other normal children? If “No” why?**



**Figure 17: Communication and Reaction**

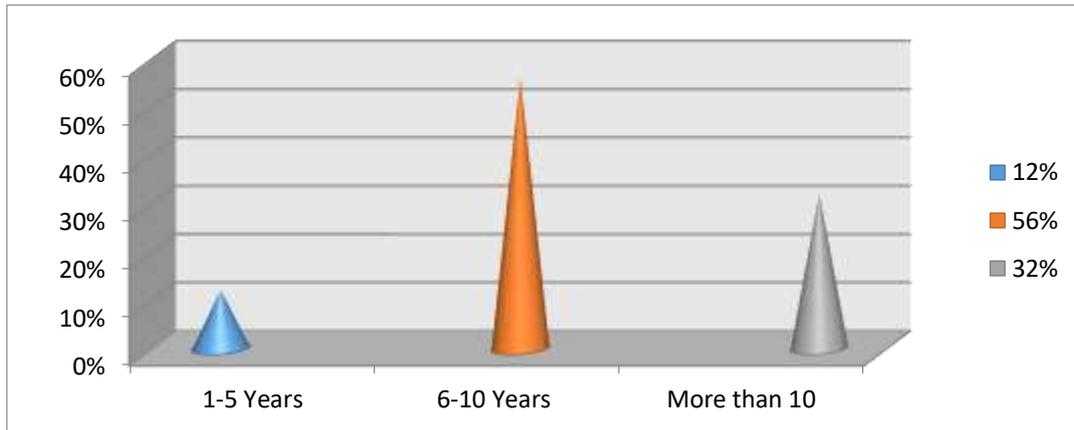
From the figure above we noticed that 68% of the speech therapists and educators see that Down Syndrome children are unable to communicate and react with other normal children because

They do not have much vocabulary, they cannot give meaningful sentences, they have problems with verbal memory, also because they have lack of confidence and the psychological trouble

prevents them to do any communication, whereas only 32% of them indicate that children with this illness can communicate and they chose yes as an answer. The varying answers show that in communicating with other normal children some of Down Syndrome children do not face any difficulties, while most of them are not able to communicate and react.

### Section Three

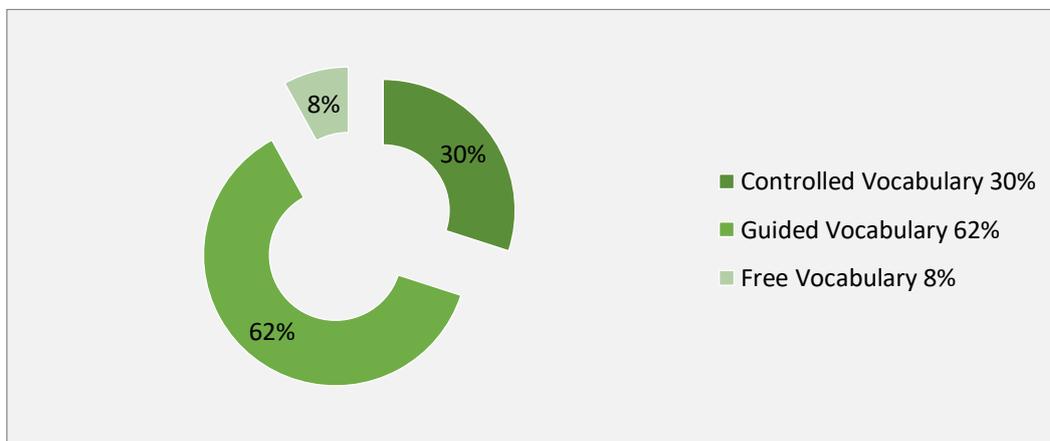
**Item 15: According to you at what age children with Down Syndrome start to produce correct and understandable words?**



**Figure 18: The Production of Correct and Understandable Words**

Fifty six percent of the participants stated that Down Syndrome children start to use correct and understandable words from the age of 6 to 10 years old, while thirty two percent of them see that children produce correct words in more than ten years old and only twelve percent indicate that they are like other normal children and they start to use correct words at age 1-5 years old. The respondents provide us with different answers, which improve that producing correct and comprehensible words by Down Syndrome children could be at different ages.

**Item 16: In order to acquire vocabulary, which one of these strategies you think it is helpful for Down Syndrome children? Free vocabulary- Guided vocabulary- Controlled vocabulary.**

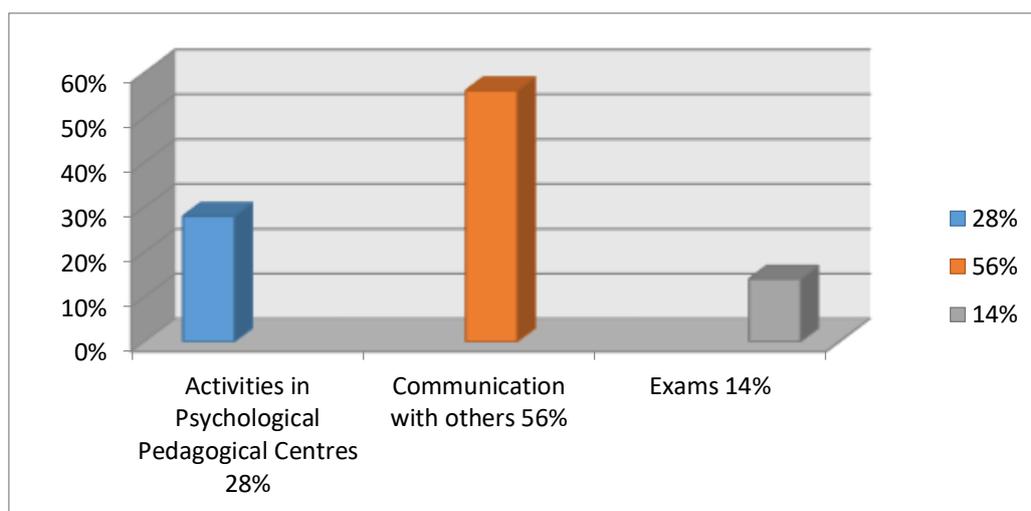


**Figure 19: Strategies in Acquiring Vocabulary**

## Chapter 03 Data Collection and Analysis

Sixty two percent of the speech therapists and educators prefer guided vocabulary because they find it easy to help Down Syndrome children to acquire vocabulary and develop their language, thirty percent of them think that controlled vocabulary are more suitable for children and only eight percent of them prefer using free vocabulary to help children. The various answers show and confirm that professionals and parents should use different strategies to help their children acquire vocabulary, they may need controlled vocabulary, guided vocabulary or free vocabulary. They need different strategies, but the strategy which is used for most of them is the use of free vocabulary.

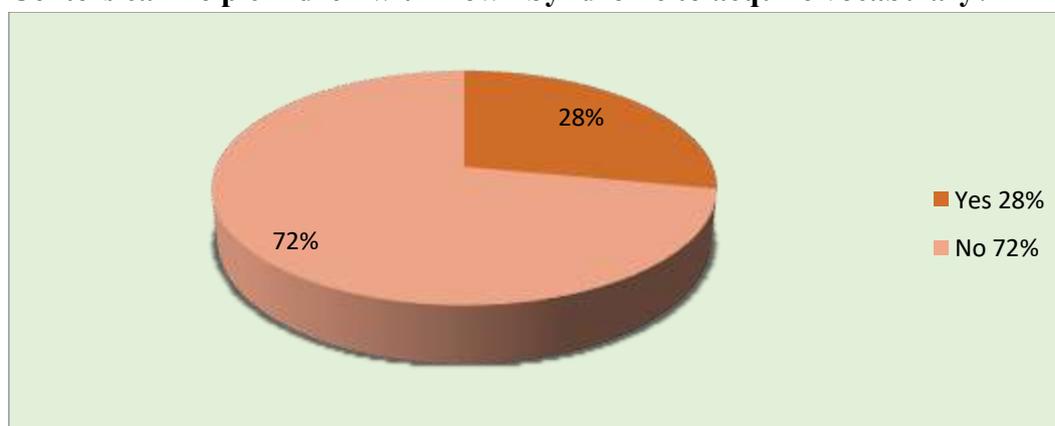
**Item 17: According to what you evaluate the level of children after acquiring vocabulary? Activities in Psychological Pedagogical Centers- Communication with others- Exams.**



**Figure 20: The Evaluation of Children's Vocabulary**

From the item above, we noticed that 56% of the participants they observe children with Down Syndrome while they are communicating with others in order to evaluate their level, whereas 28% of the participants prefer to use activities in the Psycho-Pedagogical Centers to evaluate their level after acquiring vocabulary and only 14% of them use exams.

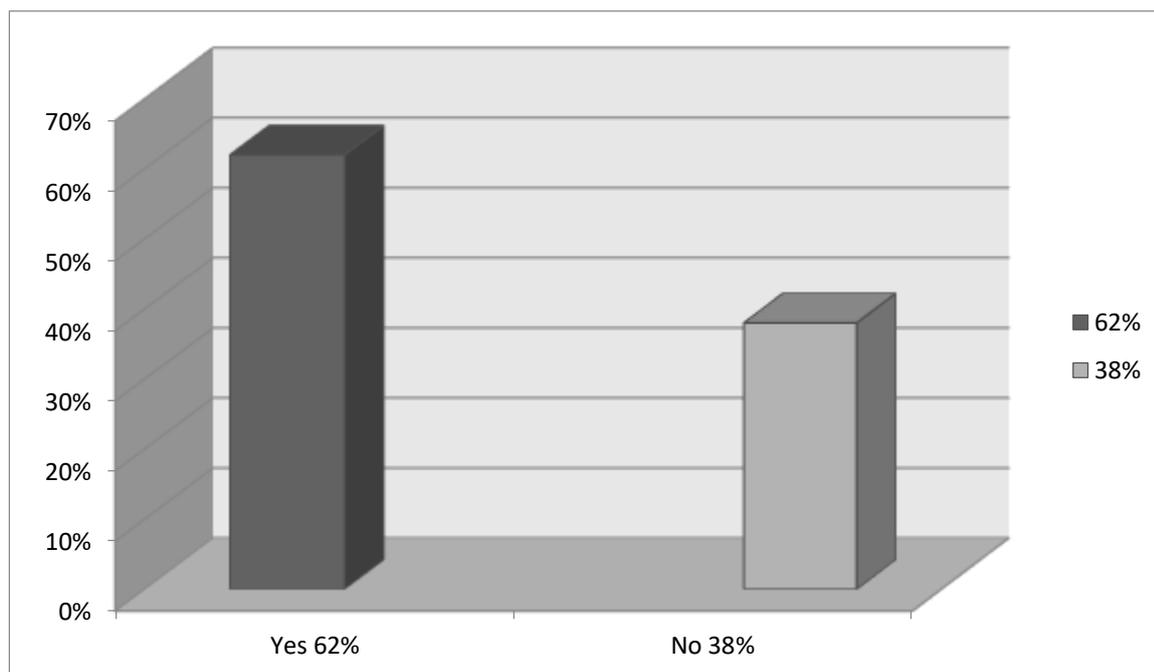
**Item 18: Do you think that only the methods that are used in the Psycho-Pedagogical Centers can help children with Down Syndrome to acquire vocabulary? If "No" why?**



**Figure 21: Down Syndrome and Methods of Psycho-Pedagogical Centers**

A percentage of 72% of participants stated that the methods that are used in the Psycho-Pedagogical Centers alone are not enough to help children with Down Syndrome to acquire and develop their language because they are special and they need more attention, their parents should practice new strategies with them according to their children's need. The whole society should give them the helping hand, whereas only 28% of the participants see that only the methods that are presented by these centers are enough and they chose yes as an answer.

### Item 19: Do Down Syndrome children react positively with new vocabulary? If "Yes" how?



**Figure 22: Reacting Positively With New Words**

A percentage of 62 of participants stated that children with Down Syndrome react positively with new vocabulary because they repeat them most of time unconsciously; they pay more attention when they hear new words, when they get new vocabulary they feel happy and start to get their meanings, whereas only 38% of them see that they do not react positively and they chose no as an answer.

### Item 20: In case children with Down Syndrome do not respond to the methods that are used in Psychological Pedagogical Centers in order to help them in acquiring vocabulary, what is the solution?

All the participants suggested different solutions in order to help Down Syndrome children to acquire vocabulary and develop their language, in case the presented methods in Psycho-Pedagogical Centers are not helpful enough. Participants pointed out the concentration on repetition and imitation, using motivational actions that push Down Syndrome children to use words, they see that relying on sign language is also helpful, integrating them with other normal children. Some participants declared that simplifying words may help them in developing the language. The participants suggested also taking them to psychologists in order to solve any

problem they suffer from. The last important point that they suggested is figuring out the reason behind their refusal to acquire vocabulary and changing the method that they use.

### 9.2. The Classroom Observation

The classroom observation was conducted in two Psycho-Pedagogical Centers in Tiaret-Algeria and Dahmouni- Tiaret- Algeria. The observation gives the researcher a clear view about the way of acquiring vocabulary by Down Syndrome children and what are the strategies used in order to help them.

In our study case we witnessed that Down Syndrome children face difficulties with short verbal memory because they cannot talk properly. Furthermore, they cannot pronounce words in correct way. In the second place, they have problems with letters and this because of their physical features especially for the tongue. In addition to that, some of them feel different when they interact with others so that they cannot communicate in good manner. In the end and for the most important point that they suffer from is the lack of vocabulary that prevent them from going through a strong and powerful conversation.

### 10. Interpretation and Discussion of Results

The present study is an attempt to explore the methods which are thought to be beneficial in improving vocabulary for Down Syndrome children. The method which is it very effective is the visual learning , because children suffer from hearing loss, working in group is also considered as an effective method and positive reinforcement. Moreover, we wanted to detect the obstacles that they face in their educational course especially for obtaining vocabulary, where we have discovered that the biggest barrier for them is their health condition, which includes hearing impairment, poor vision. In addition to that, some of them face problems with reasoning and thinking.

According to the statistical analysis of the questionnaire, we revealed that the majority the participants are old females. The results show that dealing with Down Syndrome child is very difficult, because of the fluctuation in their health, the use of indistinct words which make talking to them tiring, problems with verbal memory, delays in motor skill and the lack of speech production. We found out that Down Syndrome children suffer from the lack of vocabulary. In addition to that, they face serious problems with acquiring words and this deprived them from living a normal life.

Despite of all the methods and the strategies that the speech therapists and educators follow (visual learning modalities like using pictures, sings tangibles, repetition, making the environment noiseless), Down Syndrome children still face some issues with acquiring new terms this due to their mental retardation and some physical problems. So they believe that the techniques and methods that are used in Psycho-Pedagogical Centers are not enough for them. Their parents should help them too in order to ameliorate their level. For instance, encourage the child persevere to learn, give them special care, because they are very sensitive, making a full and simple conversation with them, in this way we will enhance his/her ability and motivate them to learn more.

## Chapter 03 Data Collection and Analysis

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Although, Down Syndrome children have problems with vocabulary acquisition ( lack of concentration, auditory impairment, they are not able to perceive or produce new words easily). Moreover, the outcomes show that they master other skills like reading which give them the capacity and the desire to continue their learning process.

Concerning how they interact and deal with other typically developing individual, the results disclosed that what prevent them from making conversation with others is the lack of vocabulary and the problems with verbal memory.

To sum up, the findings of the speech therapists and educator's questionnaire help us to realize facts about Down Syndrome children. For example, how their physical conditions control their learning, the most effective methods that should be used in order to help them in developing the acquired language, and how we should deal and converse with them. In addition to that, it shed the light on their learning side hurdles, which oblige us to search for extra solutions that may help them to improve their learning level. Recent research has found new ways to help these children, the professionals in the field have devoted a new method called "See and Learn Teaching Program" (S.L.T.P), this program is designed to teach children with Down Syndrome and all children with special needs to hear and produce speech sounds, in order to distinguish between sounds, produce words, grasp and save new terms. Other professionals believe that give them tactile opportunities is very helpful for them, it is a good and entertaining way of learning. So they should apply and concentrate on these methods to help Down Syndrome children.

### 11. Conclusion

In this chapter we dealt with both methodology section and the data analysis and the results section. The chapter revealed that speech therapists and educators understand the value of developing the methods and strategies that are used in order to help Down Syndrome children in acquiring vocabulary, but at the same time they saw that not all of them have the same level and ability to acquire vocabulary.

### Suggestions

Now we have figured out what are the difficulties and the obstacles that Down Syndrome children face in their learning process, in this part we choose to submit some suggestions and recommendation for educators, speech therapists and parents that may help in the improvement of Down Syndrome children level.

- Educators and speech therapists have to focus on the reception language which helps them to feel comfortable and continue to communicate
- Educators should teach them simple words to use while talking with others. For instance, "give me", "what happen", "thank you".
- Speech therapists should devote a mouth massage section for those who have problems with producing letters because some children do not control their tongues and lips.

## Chapter 03      Data Collection and Analysis

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- Sometimes it is hard for them to say all their words clearly or correctly, so speech therapists or educators should train them to do it in good way by repetition.
- A lot of them suffer from hearing loss and vision impairment which affect their learning, so educators should make them sit in first place or sit close to them so that they can grasp and understand words.
- The educators and speech therapists have to talk and play with them in a natural manner.
- Remember that the majority of them cannot learn from listening but it is easy for them to learn by observing, so that always focus on visual learning like using pictures, signs, tangibles and graphics.
- Speech therapists should encourage their motor development at all times this assists in enhancing their learning.
- Educators and speech therapists have to stimulate them to interact with others by using simple words or even gestures.
- Parents are also concerned with the movement of their children's learning, so they have to motivate their child from infancy toward learning by using some special games that make the learning process straight forward.
- It is essential for Down Syndrome children to have physical therapy, this helps them to keep the motor progress near to normal milestones, so that speech therapists should take care of their physical status.
- It is important to make them master some appropriate social boundaries. Moreover, they need to learn social gestures such as high five and handshakes.
- Educators should present information for them in clear, simple and well ordered manner.
- They have to be patient and give them the sufficient time to learn.
- Down Syndrome children have attention problems; they cannot concentrate in one thing, so that educators and speech therapists should follow certain methods to make them focus like using games technique.
- The therapy should always be individualized based on the child's particular needs.
- Try to make them talk slowly and clearly, ask simple questions and try to make them feel comfort.
- Some research findings indicate that about forty-five percent of Down Syndrome children suffer from sleep apnea (term used when someone stops breathing for very short period of time during sleep), this may cause memory loss and intellectual impairment in this case educators should contact parents and try to give their child medical interventions that can ameliorate the quality of their life.

## **Chapter 03      Data Collection and Analysis**

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- Down Syndrome children feel dispersed when you give them orders, so educators should use short and understandable sentences when giving the instruction.

# **General Conclusion**

### General Conclusion

To end up this research paper, a reminder for what we have dealt with in the three previous chapters. The first one is the literature review, it was divided into two parts. In the first section, we gave an overview of language in which we mentioned its definition, origin, types and characteristics. the second portion was our main focus ; we talked about language learning and language acquisition. We introduced their definitions, main theories and the difference between the two fields. Furthermore, we gave concise information about vocabulary acquisition, which we considered an entry to the second chapter .

The second one was the fundamental significance of this study. We exhibited general information about children with down syndrome we represented their: infirmity, the causes of their illness,types and their physical features. After that we went deeper about their relation with learning. More precisely we explored how they pick up words and the methods that help them to acquire vocabulary which was the basis of this study .

The third chapter is considered as the fruit of our research. Firstly, we gave a general description of the methodology that we used in our study, including the research design, the tools that we relied on, what we have observed about those individuals and the analysis of the questionnaire. The questions that we have made for this research were answered accordingly to the outcomes. Down syndrome children do face problems with acquiring new terminologies. The hypotheses are right in which the findings confirm that acquiring and producing vocabulary is a laborious process for them, simply because of their mental and physical disablement. The results made us recognize the methods used by the educators and speech therapists to improve the level of acquisition in children with down syndrome, which are as follows : visual learning method which is the most effective one, using games in order not to get bored, the use of tangible things to understand more . Beside that, we discover that their physical deficiencies were the biggest obstacle to improve their educational level for example hearing and visual impairments, tongue shape, and inability to focus on one thing .

It could be said that this piece of work demonstrates some peculiarities of down syndrome children. It also elucidates some methods and techniques, some of them are used nowadays, others should be used in the future to assists them improve their vocabulary acquisition .

After the substantiation of the hypotheses, it is recommended to guarantee that the physical status of the child is in a good condition, then affirm if the methods that are used by the educators or speech therapists to help them speak well or acquire more words are gainful.

This present study has paved the way for several future research. It is important to go deeply into the linguistic side of this kind of individuals, we must strengthen our focus on their learning development, interact with them, give them the volition tho ameliorate their level and try to search for extra methods that can help in improving their acquisition .

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# **Appendixes**

## Appendixes

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### \*English questionnaire

### \*Speech therapists and and educator's questionnaire :

Dear speech therapists and educators ,we would be very grateful if you could answer the following questions concerning :**language acquisition (the way children with Down Syndrome acquire vocabulary)**.Please tick the corresponding box for the answer .

Thank you for your cooperation and assistance.

### \*Personal information :

Male :

Female :

### \*Age :

23 \_ 28 :

29 \_30 :

More than 30

### \* working experience :

1 -5 years :

6 – 10 years :

More than 10 years

## Appendixes

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**\* Section one :**

1- Do you think that dealing with children with down syndrome is

Easy :  Normal :  Difficult :  Complicated :

2-How do you find concentrating on vocabulary developing in the mind of down syndrome children :

Non helpful :  Restricted :  Helpful :

3 -Do you think that the appropriate way to help them get the word is by :

Pictures :  Naming  Tangibles :  Repetition :

Others : .....  
.....  
.....  
.....

4-Do down's syndrome children can learn a foreign language :

Yes : :

Justify.....  
.....  
.....

5- what are the skills that down syndrome children master :

Writing :  Reading :  Speaking :  hearing :

6\_Do you think that they can be merged with normal children in school ?

Yes  No :

7-According to you what is suitable for the down syndrome child :

Quality of vocabulary :  Quantity of vocabulary :

8-According to your knowledge,their mental abilities in acquiring words is about :

1-20% : \_50% :  More % :

9- Do you think that down syndrome child responds by using words :

Slowly :  Ravidly :  mechanism :

## Appendixes

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**\*Section two :**

10-Does acquiring vocabulary for down's syndrome children allow them to move on in their life like any normal person ?

Yes :

No :

Justify.....  
.....  
.....  
.....  
.....

11-Do you think that they express their feelings and emotions using :

Words :  ds :  signs : Cryi

12-Down's syndrome children communicate with others by words :

Always  mes:  ly :

13-The most common problems that down's syndrome children face is in :

Concentration :  Language :  Reading :

14-Down syndrome children can communicate closely with other normal children :

Yes :  No :

Justify

.....  
.....  
.....

15-According to you at what age down syndrome child start produce correct and comprehensive words :

1\_5 years :  6\_10 years :  More than 10 years :

16-In acquiring vocabulary ,which one of these following strategies you think is helpful for them :

Controlled vocabulary :  Directed vocabulary :  cabulary :

17-According to what you evaluate the level of acquiring vocabulary for down syndrome children :

Activities in center and home  Communication with others :  Tests :

**\*Section three:**

## Appendixes

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18\_Do you think that only the methods which are used in the center are sufficient and can help down syndrome children to acquire vocabulary ?

Yes :

No :

19-Do they interact with new words positively ?

Yes :

No :

How :.....  
.....  
.....  
.....

20-In case they do not respond to education what are the solution or the techniques that you follow :

Explain :.....  
.....  
.....  
.....  
.....

## Appendixes

\*استبيان مخصص للارطفونيين و المربيين:

اعزائي الارطفونيين والمربيين سنكون جد ممتنين و شاكرين لكم اذا استطعتم  
الاجابة على الاسئلة التالية و التي هي  
بخصوص: اكتساب اللغة (طريقة اكتساب طفل المتلازمة داون مفردات اللغة) الرجاء وضع  
علامة على المربع الملائم لاجابتكم.

شكرا جلا تعاونكم مساحتكم اذا

معلومات شخصية

\*الجنس:

انثى:

ذكر:

\*السن:

28-23 سنة

33-29 سنة

اكتر من 30 سنة

\*خبرة العمل:

5-1 سنوات

10\_6 سنوات

اكتر من عشر سنوات

## Appendixes

### \*الجزء الاول

1\_ في نظرك هل التعامل مع اطفال متلازم داون :

سهل  عادي  لعب  عقد

2\_ كيف تجد التركيز على مفردات اللغة عند طفل التريزومي

غير مساعد  مقيد  مساعد

3\_ هل تعتقد ان افضل طريقة لجعل طفل التريزومي يفهم مفردات اللغة هي :

التسمية  التكرار  الصور  مجسمات

اقتراحات اخرى .....

4\_ هل يستطيع طفل التريزوميا تعلم لغة اخرى

نعم  لا

مع

التوضيح.....

5\_ ما هي المهارات المعرفية التي يتقنها طفل متلازمة داون :

الكتابة  القراءة  لسمع اللفظي  الكلام

6\_ هل يمكن دمجه مع الاطفال العاديين في المدارس

نعم  لا

7\_ بالنسبة لك من الافضل لطفل التريزومي التركيز على:

كمية مفردات اللغة  نوعية مفردات اللغة

8\_ اعتمادا على معلوماتك طفل التريزومي له قدرات عقلية على تحصيل مفردات اللغة بنسبة :

2\_1%  20\_50%  اكثر من خمسين%

9\_ هل تعتقد ان وتيرة الكلام عند طفل التريزومي :

بسيطة  سريعة  الية

## Appendixes

### \*الجزء الثاني

10\_ هل اكتساب مفردات اللغة بالنسبة لاطفال متلازمة داون ياهلهم لممارسة نشاطات حياتهم في المستقبل كاي شخص عادي :

لا

نعم

مع التوضيح .....

.....  
.....  
.....

11\_ هل تعتقد ان طفل التريزومي يعبر عن مشاعره واحاسيسه ب :

البكاء

الاشارات

الاصوات

الكلمات

12\_ اطفال التريزوميا يتواصلون مع الغير باستعمال الكلمات :

نادرا

احيانا

دائما

13\_ من اكثر المشاكل التي يعاني منها طفل التريزوميا هي :

القراءة

اللغة

التركيز

14\_ هل اطفال متلازمة داون يستطيعون التواصل و التفاعل مع الاطفال العاديين

لا

نعم

15\_ بالنسبة لك في اي عمر يبدأ طفل التريزومي بانتاج كلمات صحيحة ومفهومة:

تكثر من عشر سنوات

10\_6 سنوات

5\_1 سنوات

حالات اخرى.....

.....  
.....  
.....

16\_ لاكتساب مفردات اللغة وفقا لهذه الاستراتيجيات اي واحدة تعتقد انها مساعدة لاطفال متلازمة داون:

مفردات لغة حرة

مفردات لغة موجهة

مفردات لغة خاضعة للسيطرة

17\_ اعتمادا على ماذا تقوم بتقييم مستوى اكتساب مفردات اللغة عند طفل التريزومي :

اختبارات

التواصل مع الغير

نشاطات في المراكز البيداغوجية والمنزل

## Appendixes

\*الجزء الثالث

18\_ هل تعتقد ان فقط الاساليب المقدمة في المراكز البيداغوجية كافية مساعدة لطفل التريزومي لاكتساب مفردات اللغة:

نعم  لا

19\_ هل يتفاعل طفل التريزوميا بشكل ايجابي مع المفردات الجديدة :

نعم  لا

كيف.....

.....

.....

20\_ في حالة مالم يستجيب طفل متلازمة داون للتعليم ما هي الحلول و الاساليب التي يجب اتباعها معه :

.....

.....

.....

.....

## Appendixes

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### Classroom Observation Check-List

We follow this list to take accurate notes

- \* Attending classes for three months .
- \* Visiting two Psycho-Pedagogical Centers ( Tiaret-Algeria and Tiaret- Dahmouni-Algeria)
- \* Attending at least six classes .
- \* Observing children and take notes about the methods that the educators used to ameliorate their vocabulary acquisition .

## **Abstract**

This research seeks to investigate the techniques that Down Syndrome children use while acquiring vocabulary and the strategies that professionals use to help them. The aim of the research is to present steps of building the language by children with Down Syndrome. The latter face different mental and physical difficulties that prevent them from acquiring and developing their language easily, these problems include: visual impairment, hearing loss, lack of concentration, lack of vocabulary, lack of confidence and mental retardation. The present research involved various approaches in order to get the proper results and divers methods provide different answers from different perspectives. It is composed of both quantitative and qualitative approaches. The first approach based on the questionnaire which it is designed for speech therapists and educators in order to gather the needed data. The second approach based on the observation which is specified for Down Syndrome children to take notes of their perceiving, acquiring and producing vocabulary. The research study was conducted in two Psycho-Pedagogical Centers, which are: Tiaret and Dahmouni-Algeria, the participants were two speech therapists and forty eight educators and as a samples we have selected forty children with Down Syndrome. The final findings of the research exhibits that the new strategies and therapies, which are: Early intervention and educational therapy, educational therapy, physical and behavioral therapy, occupational therapy, physical therapy, speech therapy, emotional therapy, they are used by speech therapists and educators to help Down Syndrome children supports their vocabulary acquisition and help them to face all the mental and physical difficulties.

**Key Words:** Down Syndrome, Mental and Physical Difficulties, Language Development, Vocabulary Acquisition, Vocabulary Acquisition Strategies.

## Résumé

Cette recherche vise à étudier les techniques que les enfants trisomiques utilisent pour acquérir du vocabulaire et les stratégies que les professionnels utilisent pour les aider. L'objectif de la recherche est de présenter les étapes de la construction du langage par les enfants trisomiques. Les enfants trisomiques sont confrontés à différentes difficultés mentales et physiques qui les empêchent d'acquérir et de développer facilement leur langage. Ces problèmes incluent : déficience visuelle, perte auditive, manque de concentration, manque de vocabulaire, manque de confiance en soi et retard mental. La présente recherche a impliqué diverses approches afin d'obtenir les bons résultats et diverses méthodes fournissent des réponses différentes selon différentes perspectives. Il est composé d'approches quantitatives et qualitatives. La première approche basée sur le questionnaire qui est conçu pour les orthophonistes et les éducateurs afin de recueillir les données nécessaires. La seconde approche basée sur l'observation qui est spécifiée pour que les enfants trisomiques prennent des notes sur leur perception, leur acquisition et leur production de vocabulaire. L'étude a été menée dans deux centres psychopédagogiques, à savoir : Tiaret-Algérie et Dahmouni-Tiaret-Algérie, les participants étaient deux orthophonistes et quarante-huit éducateurs et comme simple nous avons sélectionné quarante enfants atteints du Syndrome de Down. Les conclusions finales de la recherche montrent que les nouvelles stratégies et thérapies, par exemple, l'ergothérapie, la physiothérapie, l'orthophonie et la thérapie comportementale qui sont utilisées par les enfants trisomiques, soutiennent l'acquisition de leur vocabulaire et les aident à faire face à toutes les difficultés mentales et physiques.

**Mots Clés :** Trisomiques, Les Difficultés Mentales et Physiques , Développement de langage, L'acquisition de Vocabulaire, Stratégies de L'acquisition de Vocabulaire.

## ملخص

يسعى هذا البحث إلى استكشاف التقنيات التي يستخدمها أطفال متلازمة داون أثناء اكتسابهم لمفردات اللغة و البحث عن الإستراتيجيات التي يستخدمها المختصون لمساعدتهم. الهدف من هذا البحث هو تقديم خطوات لبناء اللغة من قبل الأطفال المصابين بمتلازمة داون. تواجه هذه الفئة من الأطفال صعوبات عقلية و جسدية تمنعهم من اكتساب و تطوير لغتهم بسهولة, و تشمل هذه المشاكل: ضعف البصر و فقدان السمع, نقص التركيز و قلة المفردات, انعدام الثقة بالنفس و التخلف القلي. تضمن البحث الحالي مناهج مختلفة من أجل الحصول على النتائج المناسبة و أساليب التنوع التي توفر إجابات مختلفة من وجهات نظر مختلفة. المنهج الأول يعتمد على الاستبيان المصمم خصيصا لمعالجين النطق و المعلمين من أجل جمع البيانات المطلوبة. المنهج الثاني يعتمد على الملاحظة المحددة لأطفال متلازمة داون من أجل تدوين الملاحظات حول كيفية إدراك المفردات و اكتسابها و إنتاجها. أجريت الدراسة في مركزين نفسيين تربويين ب: تيارت-الجزائر و دحموني-تيارت-الجزائر, و كان المشاركون اثنين من معالجي الكلام و ثمانية و أربعين مربيًا, و كعينة قمنا باختبار أربعين طفلا من متلازمة داون. تظهر النتائج النهائية للبحث أن الاستراتيجيات و العلاجات الجديدة المقدمة, على سبيل المثال: العلاج المهني, العلاج الطبيعي, علاج النطق و العلاج السلوكي, التي يستخدمها أطفال متلازمة داون يدعم اكتسابهم لمفردات اللغة و يساعدهم على مواجهة جميع الصعوبات العقلية و البدنية.

**الكلمات المفتاحية:** متلازمة داون, الصعوبات العقلية و البدنية, تطور اللغة, اكتساب مفردات اللغة, استراتيجيات اكتساب مفردات اللغة.