In the name of Allah the most gracious the most merciful

(Moses) said: "O my Lord! Expand me my breast; (25). Ease my task for me;

(26) And remove the impediment from my speech; (27). So they may understand what I say (28) [Chapter: 20]

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Dedication

I dedicate this work to everyone who carries the burden of stuttering, particularly to my mother and father whose love and support are endless, to all my friends and the whole Family.

Content

General Introduction:

Speech impediments take many shapes, for example, lisps, stuttering and cluttering. Stuttering is known as repeating the first letter of a word at the beginning of an utterance. Since the birth of civilization, various methods of treating stuttering were developed. In the modern age, many theories accounted for the phenomenon of stuttering by psychologists, speech pathologists and neurologists; each specialist has explained stuttering according to his/her background. However, its processes and causes are still controversial.

One should understand the causes of stuttering in order to find effective solutions to eliminate it. As a matter of fact, two main significant descriptions were given to stuttering: the physiological and the psychological ones. The physiological aspect includes advocators who assert that stuttering is the result of conflicts between neurological structures that lead to disruption in the speech system; furthermore, only an inherited predisposition of stuttering passes through genetics, and needs the environment to trigger it. Therefore, its treatment tends to be physical or palpable like taking medicines or having surgery. On the other hand, the psychological approach considers stuttering as a psychological issue which is due to factors such as: showing great care towards child's speech or facing severe dreadful events in childhood. Thus, the ways of treating stuttering are also psychological like restoring patient's confidence.

The stuttering phenomenon appears to be physical i.e. vocal defects, but in fact what happens in the psyche of the stutterer is a culminated psychological disturbance which forces stutterers to isolate themselves an avoid interaction as much as they can. The latter worsens the case of stuttering and maintains avoidance strategy which inhibits natural communication. Besides, it puts stutterers under a constant state of depression as communication is an indelible factor of human nature. Taking into consideration the previous insights about the gravity of the stuttering phenomenon, I will try to present, in this dissertation, the most effective solutions to stuttering.

The main purpose of this study is to investigate the real causes of stuttering and effective treatment procedures, so that to provide EFL learners who stutter with what they need to learn the target language more effectively. Therefore, in this paper, we will focus

on the contributing and influential factors in stuttering namely: the psychological and physiological factors. The second aim is to determine which aspect –physiological or psychological will more effectively cure stuttering.

Even though stuttering, in its nature, reflects a physical problem, the underlying psychological factors seem to be responsible to great extent of the stuttering issue including recovery strategies. Hence, stuttering is likely to be a psychological problem more than a physiological one.

The causes of stuttering are of great significance in determining its cures. Therefore, is stuttering the result of psychological/physiological factors or both? Knowing the answer to this question enables us to understand the reality of stuttering, and therefore to direct our attention to what should we take into consideration in the treatment of stuttering?

As far as the methodology is concerned, I am going to use a descriptive methodology because the time devoted to the study is limited and the constrains tend to be more theoretical. Therefore, as tools of data collection, Questionnaires would be used to elicit information on the nature and causes of stuttering from specialists and patients in a speech therapy institution, in addition to an observation to an actual speech therapy session. In addition, I will proceed with a data analysis of the collected samples and materials.

I will discuss the subject of stuttering focusing on its causes and ways of treatment. The Physiological aspect of treatment, medicinal treatment, will not be included in the study because, as far as I have noted, the physiological supporters tend to lean on psychological procedures in treatment. They recommend that therapists should rely on enhancing mental processes and psychological strategies. Therefore, I will try to analyze both advocators of psychological and physiological views of treatment, so that it would be more effective in terms of self practice i.e. independent treatment.

I'm not going to discuss the other kinds of stuttering, such as stuttering in sign languages because, firstly, it is not directly related to what I want to prove, and secondly, it is relatively a recent discovery, which means that it is hard to gain information and provide analysis on that subject.

The subject of stuttering is very critical and controversial. I'm going to shed light on rational and scientific explanations of the causes of stuttering in a way that helps

determining the nature of the issue; in addition, I will try to tackle the most useful ways of treatment, and I will also try to present them for self-practice because there ara certain psychological methods of treatment that can be of great help ,yet as far as I know, they are not used by speech therapists in our country, nor they are of wide use by many therapists around the world, apart from the different background views of specialists about stuttering. These psychological methods of treatment are based on experiences of people who recovered from stuttering.

In educational settings, students who are learning a second language will face inevitable problems in oral expression classes because stuttering will impede the mastery of the speaking skill of the target language; hence, in this study, I will provide some treatment procedures and recommendations, so that learners will acquire the target language more effectively.

Definition of stuttering:

The word stuttering has many meanings as it might refer to normal person repeating (stuttering) the first letter of a word when they are angry or terrified; however, in technical terms, it refers to anyone who has a speech disorder (chronic stuttering) that is characterized by a speech disfluency which takes the shape of a block or a repetition of the first letter or syllable of a word in a more severe way than that of normal stuttering. The word stuttering has a broad meaning, therefore, Harrison (2011), in his book "Redefining Stuttering", tries to limit the meaning of the concept stuttering by giving it a specific connotations because he asserts that it is of crucial importance to determine the nature of stuttering in order to find solutions to it; thus he differentiates between four kinds of stuttering as follows:

> "one way around this problem is to have separate words or phrases to differentiate the four kinds of disfluency… I call first kind of stuttering Pathological disfluency to identify the fractured speech that results when a person is suffering from a physical deficit such as a brain lesion or parkinson's. The second is developmental disfluency which describes the speech of a child who is struggling to

> master the uncertainties of communication. The third kind of stuttering is bobulating… characteristic of a person who is emotionally upset or discombobulated. Finally, there is blocking where the person has locked up and is unable to speak." (Harrison, p. 114)

The purpose of this distinction is to provide a clear view of what we are talking about, and therefore to specify the nature of chronic stuttering that is blocking. We can notice that the word "block" shows that there is an internal conflict, inability and unconsciousness, and it describes the fact that the stutterer is blocking something from happening that may have emotional negative effects; hence, the afore mentioned writer describes it as " blocking is a *strategy* designed to protect the speaker from unpleasant Consequences." (Harrison, p. 15). The latter strategy is a silent break or pause while the person is speaking; however, it may intensify and evolve to become (Stalling) which is repetition of a word or a syllable because the stutterer is afraid that he is going to repeat the coming word or syllable, so it is the alternative to the struggle behavior associated with speech blocks. Both stalling and blocking should be considered the same issue. (Harrison, 2011)

Historical background:

Since the birth of civilization, human beings tried to find solutions to stuttering and provide explicit explanations to it. In the age of the Greek civilization, many philosophers and thinkers tried to find remedies to stuttering. Demosthenes (384 B.C), a stutterer himself, was a debater in Athens, Greece. He tried to get rid of his stutter by standing at the shore and talking with bubbles in his mouth and by attaching weighs in his chest while climbing hills (Harrison, 2011). It is worth mentioning that by doing that Demosthenes is trying to strengthen his lungs believing that there is a problem with the respiratory system. On the other hand, Aristotle who is considered the first scholar to put neurological basis to stuttering said "the instruments of the tongue itself are weak and cannot exactly follow the concept of the mind" (Ward, p. 23). He tried to associate the behavior of stuttering with over drinking or to the possibility that people may think faster

than they could speak while Hippocrates thought (the problem might arise from the speaker “thinking of fresh things before he had expressed what was already in his thoughts.” (Harrison, p. 13)

At this point there is a shift from physical responses to mental responses in explaining the cause of stuttering, but it doesn’t seem like a huge shift because the former scholar explained the stuttering phenomenon relying on an idiosyncratic point of view that is his own feeling as a stutterer, and the last two scholars were playing the role of a third party as they examined stuttering through the eyes of the observer. Nevertheless, both points of view could be right considering the fact that until now there is no proved scientific explanation to the causes as well as remedies of stuttering.

As a roman physician and philosopher, Cornelius Celsus recommended gargling with a blend of various spices, chewing mustard garlic and onions and rubbing the tongue with lazerwort. In addition, most importantly, he suggested for those who have stuttering since their birth to stretch their tongues and cut their membranes (Harrison, 2011). We don’t know whether this operation was done before him or not, but this could be the first surgical solution used for the treatment of stuttering.

The writer then moves forward in time to reach the age of enlightenment referring to the proposal of the physician Febricus Hildanus to cutting the lingua frenum which he explains it as “the fold of skin beneath the tongue that attaches to the floor of the mouth” (Harrison, p 14), and then he gives the reason of doing that “on the assumption that its unnatural thickness prevented the tongue from being raised to the palate or teeth” (Harrison, p. 14).

In 1830, the surgeon Hervez de Chegoin suggested that stuttering is due to the shortness of the tongue or the disposition of the frenum which he recommended removing it (Harrison, 2011). Johann Fredrich Dieffenbach, in 1841, examined stuttering differently, through immersing a little deeper in the world of surgery his hypothesis is explained clearly by the writer in the following: “stuttering was caused by a spasm of the glottis that communicated itself to the tongue as a lingual cramp. His operation consisted of cutting a triangular wedge from the root of the tongue so that the impulses could get through.” (Harrison, p. 14)

There were other trials to treating stuttering in India, some of them included food ingredients mixed together. Some of the endeavors appear useless, but it was all based on the means and knowledge that were available at that time (Harrison, 2011). Therefore, even though we live in the most developed age in terms of knowledge and technology, we can not invalidate some of the previous rational endeavors in treating stuttering without a proof simply because we are still trying to answer the basic questions about stuttering, and uncover its secrets.

Chapter one: causes of stuttering

Introduction:

In the modern age, many theories have emerged to account for stuttering, which were encouraged and enhanced by the development of psychology, and then by the birth of neurology. One could notice that there are two main approaches that tried to provide significant explanations to the causes of stuttering, in addition to different procedures of treatment. The physiological supporters are the scientists who believe that stuttering is the result of physiological rather than psychological effects, so what causes stuttering could be a problem in the speech system, a neurological disorder or a genetic predisposition to stutter. As a treatment procedure, some of them rely on palpable ways like taking medicines or having surgery. On the contrary, the psychological advocators are the scientists who believe that stuttering is due to psychological factors such as: showing great care towards child's speech or facing severe dreadful events in childhood. Thus, the ways of treating stuttering are also psychological like restoring patient's confidence.

1. Neuro-physiological causes of stuttering:

The science of neurology has provided some accurate descriptions to the brain functions and how it controls the whole body. As far as stuttering is concerned, neurologists fail to determine the direct causes of stuttering (of course by stuttering we mean the 'blocks' not the 'physical deficit' which is the result of a brain damage) in the brain, but they have explained it in relation to other intersecting brain structures. To illustrate more, here is an example on one of the methodologies they follow. They try to determine what brain structures are activated while the clients stutter. And then they build the assumption that stuttering is caused by a simultaneous process of a certain observed brain structures which lead to a conflict, and therefore stuttering. This method could be very reliable because they also test and compare the results of the stuttering individuals with the non-stuttering individuals.

1.1. The Orton and Travis theory:

In the beginning, the experience started by observing the processes that happen in the areas responsible for language and speech in the left and right hemispheres. The assumption is that stuttering is the result of a conflict between both hemispheres in maintaining control over language and speech production (Orton and Travis). The theory of Orton (1927) and Travis (1931) represents the classical neurological explanation to stuttering. Logan (1999) explained it in his book and stated that “the theory is based on the idea of a lack of cerebral dominance for speech” (Logan, p. 62; Ward, p. 100). And therefore, the brain is “ indecisive about how to initiate speech” (Scovel, p. 82). This means that neither of the hemispheres have control over speech. The latter is the case of considerable number of children as “ five percent (about half of all left-handers are) are probably right hemisphere dominant for speech and another two and a half percent(about a quarter of the left- handed population with a few right-handers thrown in) probably has neither side of the brain dominant for speech.”(Scovel , p.81)

Logan explains more the Orton and Travis Theory and states the following:

> Orton and Travis maintained that the normal left-hemispheric dominance for both speech and language was lacking in those who stuttered. In normal fluent speakers the dominant left instructs the right hemisphere motor areas to follow the left's instructions concerning speed, accuracy, range and strength of movement. When both hemispheres cooperated in sending the same innervation to their respective sides of the speech system, fluency resulted. If neither side was dominant for speech control both were able to send their own innervation signals (Logan, p. 62).

Consequently, a conflict will occur, so stuttering appears. Restoring the dominance of language to the left hemisphere by advising subjects who stutter to use their right hand did not succeed. Nevertheless, alterations to the theory haven’t been stopped since the original contribution. (Logan, p. 62)

As far as genetics is concerned, only a predisposition to stutter passes down through genetics which needs the environment to trigger it. (Logan, p. 1) In this case, stuttering follows a certain developmental stages under the influence of the environment. Stuttering is considered as a conditioned behavior to be learned. The latter involves repetition of stimulus-response activity in repeated circumstances followed by reinforcement (confirmation of the stuttering behavior) or punishment (rejection of the stuttering behavior). It is followed by secondary behaviors which are reinforced by failure of producing normal speech without stuttering; thus, each failure reinforces the belief that speech is not easy and that secondary behaviors are inevitable; in addition, these secondary behaviors can be learned in order with the possibility that the previous secondary behavior may trigger the next one. Therefore, they are regarded as a defense mechanism used by subjects who stutter to avoid, lessen or escape the block (Logan, 1999).

According to Logan, failure in speaking causes certain brain structures to contribute to the birth of the secondary behaviors, and describes the whole operation as a paradigm in: “It is a paradigm based on the contributions from the amygdala-hippocampal-limbic complex that does not just make us cognitively aware of our feelings and reactions but also influences our cognitive reactions and responses, often in ways that are not in our best interests” (Logan, p 54). What is important here is the fact that certain neurological structures are responsible for learning the secondary behaviors.

The respiratory system can be a direct cause to stuttering. Denny and smith (1997) suggested a theory about how could the respiratory system and laryngeal functioning contribute to stuttering, they explained it as follows:

> During normal speech, there is a reduction of inputs into motoneurone pools that originate from the brainstem circuitry responsible for metabolic (life support) breathing and/or the PAG, which is active for emotional vocalization. Respiratory and laryngeal function is taken over and managed primarily by the speech controller. In contrast, in individuals who stutter, the metabolic and emotional-vocal centres, for a variety of reasons, may compete with

> the speech control system. The interaction and competition of these control systems may be a source of instability in speech motor control for individuals who stutter. (qtd in Logan, p. 19)

One of the functions of the the periaqueductal grey (PAG) is as: “a transfer station through which emotional arousal is communicated into motor speech (Denny and Smith, 1997)” (Logan, p. 19); Hence, it is responsible for emotional utterances, such as moaning due to pain. In the case of stuttering, the breathing system might compete with the PAG ,probably, because of the continues emotional arousals like fear and anxiety that accompany the process of speaking which are caused by the images of negative speech experiences that are stored in the brain memory. To summarize this point, it is not supported that “all of the motoric, respiratory, or laryngeal responses capable of being elicited by these structures occur in each individual who stutters” (Logan, p. 45). This means that each stuttering case has its own independent causes.

1.2. The Valsalva Mechanism Theory:

The Valsalva Mechanism was “ named for Anton Maria Valsalva, an Italian anatomist who lived from 1666 to1723.” (Parry, p.23) A language speech pathologist, William D. Parry, (2009) suggests an interesting and important theory that accounts for stuttering. He asserts that stuttering is caused by the Valsalva Mechanism which he defines as “ A neurologically coordinated team of muscles throughout the body which act together in the performance of a Valsalva maneuver” (Parry, p.21). He describes the function of the valsalva maneuver as: “The purpose of a Valsalva maneuver is to increase air pressure in the lungs, in order to help a person exert physical effort or force things out of the body” (Parry, p .23). To understand the connection between the valsalva maneuver and stuttering, we need to understand the nature of the Valsalva maneuver.

Parry describes the state of the body when performing a Valsalva maneuver he stated: “…the abdominal muscles tightened up, squeezing the intestines and organs in the abdominal cavity, so that they press upward against the diaphragm, causing it bulge upward, compressing the chest cavity” (Parry, p. 25). The diaphragm refers to a muscle

which separates the chest cavity from the abdominal cavity. In addition, he continued: “Some chest muscles also tighten to bring the rib cage down, compressing the chest cavity even more (Parry, p 25). And then, “…the larynx is neurologically programmed to close tightly around the upper airway to keep the air in the lungs from escaping. This is called effort closure.” (Parry, p 25). This is an interesting fact about the larynx which includes the vocal folds and the epiglottis. It represents the last station for the air to become spoken words in the mouth. This situation of the larynx sounds similar to stuttering when there is a speech block. Finally, “Rectal muscles may also tighten up, except when bearing down for bowel movements.” (Parry, p 25)

During a Valsalva maneuver, the air is stopped completely by the larynx which is completely closed, performing effort closure. When the amount of the air raises, the closure becomes more solid (Parry, p. 27) It seems that one of the main functions of the Valsalva maneuver is to help us push things out of the body like: defecation, urination and childbirth (Parry, p. 30).

The group of muscles that perform the valsalva maneuver are neurologically connected to operate at the same time, and with same strength. The degree of the latter is controlled by the air pressure which causes the muscles to contract (Parry, p. 31). The lips or tongue can also contribute to the blocking of the air when the Valsalva maneuver is in action especially if they started the closure. In order to understand this, we need to perform a valsalva maneuver first as it is demonstrated by the writer:

“ Stand up. Curl your fingers, and link both hands together in front of your chest. Take a deep breath. Now try to pull your hands apart, as hard as you can, without letting go. Pull really hard.” (Parry,p 24). And now try that making the following sounds: “/p/ as in ‘potato’. /t/ as in ‘toast’ /k/ as in ‘ketchup’. ” (Parry, p. 31) What do you feel? It utterly sounds abnormal. Doesn’t’ it? This is so similar to stuttering especially the “forceful closures that occurred during my stuttering blocks (Parry, p. 33)

The writer seems to notice astonishing similarities between the situation of the Valsalva maneuver and stuttering. He confirmed that “The similarity in laryngeal behavior was visually confirmed by a laryngologist using a fiber-optic tube. The forceful closures of my lips and tongue were also the same as when I blocked on consonants. I realized that, when I blocked, I had been doing a Valsalva maneuver” (Parry, p. 33).

According to the writer, stuttering is the result of a neurological confusion between speech and the Valsalva mechanism (Parry, p. 34). And this confusion happens when we "anticipate the need to try hard or force the word out" (Parry, p. 34). When we anticipate difficulty in speaking, the brain may neurologically prepare the body to push the words out and perform a Valsalva maneuver. This preparation causes forceful closures of the mouth and larynx, and difficulties and delays in speaking (Parry, p. 35). In addition, since the body is neurologically ready to perform a valsalva maneuver, " the restriction of airflow and increase in air pressure during articulation may involuntarily trigger a Valsalva maneuver" (Parry, p. 37).

In other words, obstructions of normal articulation by the tongue, lips or larynx in which air pressure is initiated may become the ground to perform a Valsalva maneuver (Parry, p. 37). Therefore, when the body is neurologically ready to do a Valsalva maneuver, rather than doing phonation, the larynx will perform effort closure. And when this interferes with normal phonation, the difficulty in making voiced sounds appears (Parry,p 38). Such difficulty could refer to stuttering, or it could contribute to form the basis of the stuttering behavior.

The anticipation of difficulty, that is the result of forcing the words out, leads to adopting the Valsalva Mechanism as a reaction. This reaction will develop to become a learned behavior through repetitive reinforcement. After that, those behaviors will be acquired and neurologically programmed to happen despite the fact that there is no reasons for difficulty. And finally, the psychological attitudes and the physiological reactions influence one another in the Valsalva-stuttering cycle. (Parry, 2009)

The Valsalva-stuttering cycle consists of six components:

1.2.1. **Anticipation of Difficulty:**

Anticipation that saying certain words and speaking in general will be difficult; therefore, the difficulty will evolve to become fear, which goes beyond fear of speaking to fear of losing one's self-image.

1.2.2 **Urge To "Try Hard":**

In the case of stuttering, the feeling to push the words out becomes a habit. It is like forcing something out of the body as if we are performing a Valsalva maneuver.

1.2.3. **Valsalva Tuning:**

The Larynx and the other components of the Valsalva mechanism become neurologically prepared to perform effort closure, so that the words will be forced out, but in fact this is the wrong way to do that as speech is intrinsically loose and easy.

1.2.4. **Vocal Delays and Forceful Closures:**

Because the larynx is performing effort closure (Valsalva tuning), the speech of a stutterer is subject to cuts and delays.

1.2.5. **Avoidance Behaviors:**

The writer stated that they are: “Attempts to overcome, avoid, postpone, or hide the blockage of speech” (Parry,p 46). They include “use of starters
, fillers, and other unnecessary words and sounds, word substitutions, grunting, breathing irregularities, facial contortions, teeth gnashing, etc” (Parry, p. 46).

1.2.6. **Mental Reaction:**

This component seems to be concerned with psychological rather than physiological reactions. It involves the belief that speaking is difficult, and that before or after stuttering there is this false impressions and “feelings of guilt guilt, shame, and embarrassment. Loss of confidence and self-esteem.” (Parry, p. 47)

The Valsalva-stuttering cycle explains stuttering by examining several interacting factors that may be of direct cause to stuttering. In addition, the writer also suggests that it is so important that people who stutter should never force the words out thinking that it is useful because this doesn’t work and it will only increase the possibility for the Valsalva action to take place. “The harder one tries to be fluent, the more likely the Valsalva mechanism will be activated and interfere with speech.” (Parry, p. 48)

The serious part happens when the Valsalva-Stuttering Cycle becomes a habit, and when the Valsalva Maneuver replaces the normal speech articulation; as a result, Parry confirms that, “… the Valsalva-Stuttering Cycle creates strong nerve pathways in the brain, linking speech to the Valsalva mechanism. Meanwhile, the nerve pathways for

fluent speech –normally concentrated in the left hemisphere –are used less, and therefore aren't as strong. (Parry, 2009)

As a conclusion, we have talked about some of the important neurological and physical explanations that account for stuttering. We have seen how the brain may be responsible for the acquisition of the stuttering behavior, as well as the acquisition of the secondary behaviors gradually. In addition, as far as the Valsalva-stuttering cycle is concerned, we have found that the psychological reactions are of crucial importance to the cycle, and that they contribute to the confirmation and support of the stuttering behavior.

2. The socio-psychological Causes of Stuttering:

To understand the stuttering behavior, we need to go beyond the actual speech disorder simply because when stuttering there are other elements that contribute to the occurrence of this behavior. For example, people who stutter normally don't stutter when they are speaking to themselves or reading something out loud to themselves too, unless there is an actual conversation which requires a hearer, a subject to talk about and interaction. Apart from the brain structures which are activated in a conversation, the hearer plays an important role in maintaining stuttering. In addition, there are other factors that are more crucial than the hearer; in fact, they are the ones that decide whether there would be stuttering or not. They are suggested by Harrison to be the key elements that control stuttering and he calls them the Stuttering Hexagon. Furthermore, the writer asserts that if we want to determine the real causes of stuttering we need to see it from different angles and consider it as a whole system working together.

2.1. The Stuttering Hexagon:

For this reason, Harrison (2011) suggests that The Stuttering Hexagon consists of six elements: emotions, beliefs, intentions, perceptions physiological responses and physical behaviors.

2.1.1. Emotions:

Emotional arousal or the feeling that we are confused or afraid may lead to normal dysfluency, bobulating, but concerning people who stutter the situation is worse as it is likely to cause blocking. When there is a need to express certain emotions but at the same time the subject is afraid of doing that because he or she may experience a worse emotional state; as a result, the block happens.

2.1.2. Beliefs:

People have beliefs with regard to many questions like: who are they? What can they do? How are they going to be evaluated by other? Can they speak before people? and Will people misjudge them, laugh at them… ? In the case of stuttering Harrison stated that beliefs "don't create speech blocks, but they help to form the mindset in which speech blocks occur" (Harrison, p 46). There are many standards that shape our beliefs. Life events and experiences and our reactions to them have direct influence on our beliefs since we were born, in addition to people in our lives like our parents. For instance, if people who stutter believe that speaking is difficult and people will laugh at them, then they are likely to find it difficult; therefore, this belief that speaking is difficult will create a sense of anticipation and fear that will certainly lead them to stutter.

2.1.3. Perceptions:

The writer tried to differentiate between beliefs and perceptions because they are closely associated. He said that beliefs are: "fixed expectations of the way things are or will be. For example: Women are poor drivers. I will stutter whenever I have to give my name. George is a good person" (Harrison, p. 49), whereas, a perception is: "something that takes place right now, in real time. The sales clerk is laughing at me. When I blocked, the person I was chatting with became embarrassed." (Harrison, p. 49) Actually, he gave a good example about perceptions: "Talk to five people who have witnessed an auto accident, and you're likely to get five different versions of what happened" (Harrison, p 48). However, beliefs and perceptions have a strong relation since beliefs form the basis for perceptions to emerge, and perceptions have direct influence on reactions. To sum up, perceptions are instant expectations and judgments that change the

way we feel, and act. Therefore, if the perceptions are negative stuttering is likely to happen.

2.1.4. Intentions:

What we want has a lot to do with blocks. For one reason, the nature of the block implies that there is a sort of confusion between two things, and yet we don't decide what to choose. In fact, Harrison defines the block of speech or others as: "two forces of equal strength that pull in opposite directions" (Harrison, p 50). For a good explanation of intentions, Harrison narrates a beautiful and sad story of George and his horse.

One day, George was riding his horse heading to his town, but they encountered a snake which scared the horse and made him fall, and unfortunately break his leg. After a while of pain, George came to realize that there is no choice other than killing his beloved horse with a pistol he had on him because his leg can't be healed; hence, he took the pistol and put it between the eyes of his best friend, however, he couldn't pull the trigger, he was totally blocked.

This story shows us that if we have to choose between two things of equal importance, we are expected to block. George wanted to kill his horse and stop his suffering, but at the same time he didn't want to do so because he loves his friend and he did not want to burden himself with that for the rest of his life; as a result, he was blocked he couldn't pull the trigger. So, there is this intention that we want to speak, but at the same time deep down in our subconscious we don't want to because we are afraid we will stutter again or we will not do good.

2.1.5. Physiological Responses:

Our bodies are designed to initiate a flight or fight response, which is a physical status that causes our hearts to beat faster , the release of adrenaline and our blood pressure to rise…, to provide us with enough power, so we fight or flee (survive) if our lives are in danger (Harrison, 2011). The same thing exactly happens while stuttering except for one thing that is our lives is not really in danger, but we are experiencing some sort of similar fear. Actually, the flight or fight defense mechanism happens when we are experiencing different kinds of fear, whether it is very serious or not, including fear of speaking before

people because as stated by Harrison “What is threatened are your self-image and your self-esteem. (‘I’m so humiliated, I’m going to die).” (Harrison, p 51). Therefore, there could be a direct connection between the flight or fight response and stuttering if we have the fear of stuttering and inhibition about speaking in front of people.

Harrison argues that the brain changes that accompany stuttering are only because of the : “common sense that if there are subliminal rises in feeling and other changes associated with a sudden and severe stress reaction, that these changes will be recorded in various areas of the brain” (Harrison,p 52). In addition, he suggests that genetics may play a role in stuttering as they are responsible on whether an individual is too much vulnerable and sensitive or not. To support this premise Harrison mentions an article by Mary Elizabeth Oyler, Ph.D., which explains the relationship between sensitivity, vulnerability and stuttering. It is better to quote it because it is important. To quote Dr. Oyler:

> My research compared 25 stuttering to 25 nonstuttering school-aged children matched on gender and age. The group of stuttering children revealed significantly greater sensitivity and vulnerability than the group of nonstuttering children. There was also a close relationship between sensitivity and vulnerability. Those who were vulnerable seemed to be more sensitive and responsive to all stimuli, especially to being bombarded by negative stimuli. This may suggest a certain neurogenic and developmental fragility....
>
> Because stuttering individuals with a hypersensitive temperament require less stimuli for responsiveness and reaction, they may be oversensitive to the negative reactions of other people and be more sensitive to stress, time-pressure, and noise. This hypersensitivity may also cause them to react more strongly to their own stuttering. This was what I identified in my own personal experience. (Harrison, p 52)

This excessive sensitivity and vulnerability could be the cause of stuttering in the very beginning, and the one that is keeping it alive as well.

2.1.6. Physical Behaviors:

The Hawthorne Effect refers to a:

> series of studies on the intangible factors in the work situation that affected the morale and efficiency of shopworkers—studies which Professor T. F. Gautschi of Bryant College called "perhaps the most important and influential pieces of scientific research ever done in the psychology of work. (Harrison, p 35)

Those studies took place in the Western Electric Company at its plant in 1927 in Hawthorne. The Hawthorne Effect is believed to be the heart of the stuttering behavior as it represents the whole elements of the stuttering hexagon working together. It refers to what extent the individual is immersing in his/her environment, and this determines what he or she feels towards the environment. For this reason, the emotions and performance of the individual are very different when he or she is with friends and when he or she is at work. The latter is more complex because it depends on the degree of familiarity and harmony between the individual and his or her colleagues and boss. As far as the Hawthorne Effect is concerned, in a work setting, it is believed that the degree of familiarity and harmony affects greatly the performance of the individual, as well as the stuttering behavior. Therefore, when speaking to people whom stutterers don't know personally, people who stutter tend to have a feeling of anxiety which leads to negative emotions, beliefs, intentions, perceptions, reactions of the physical body and finally stuttering. Thus, the Hawthorne effect brings the elements of the stuttering behavior to work together and make it likely that the physical behavior of stuttering will occur.

Since the fear of threats is a genetic issue, people who stutter still have that fear because they want to look good not humiliated in front of everybody, however, there is an exception to that, which is when people who stutter are with friends and family as they no longer feel any kind of threats while speaking.

To conclude this part, The Hawthorne effect form the basis of the stuttering system as it influences either positively or negatively all the elements of the hexagon.

2.2. The Johnson Theory:

One of the classical theories that explains stuttering is the Johnson Theory. It explains the stuttering phenomenon from a behavioral socio-psychological perspective. Ergo, stuttering is thought to be the result of showing intensive care and attention by the parents and maybe teachers toward the child's speech to assure that it is fluent. This could be due to one of the parents being stutterers themselves, so they try to make sure that their children are not. On the other hand, since stuttering is the result of traumatic Experiences, criticism to the child's speech by teachers and maybe parents is also a strong reason to stuttering to happen. (Scovel, 1998). The Johnson Theory also tried to explain why the numbers of boys who stutter outnumber girls, and why left-handers outnumber right-handers, as far as stuttering is concerned (Scovel, 1998) stated that:

> "Since caretakers and primary school teachers are usually women, and since girls usually supersede boys in linguistic ability at an early age, boy's speech receives more of the inordinate attention and criticism that fosters frustration and stuttering behavior. As they strive to cope with the difficult task of learning their mother tongue, left handed boys are a minority that are especially singled out and receive excessive attention among all children" (Scovel, p 82).

Conclusion:

The interacting elements of the stuttering hexagon provide a more understandable and reliable explanation to the causes of the stuttering behavior, in addition to the Valsalva mechanism theory. However, both the Johnson theory and the Orton and Travis theories did not receive much consideration by recent explanations to stuttering because stuttering is found to be a far more complicated phenomenon (Scovel, 1998).

Chapter two: Solutions to stuttering

Introduction:

It is believed that we can change our learned behaviors just by convincing ourselves of ideas that are more rational and true; ergo, the stuttering behavior and its secondary behaviors can be changed by learning new positive behaviors. The learning of a conditioned behavior is achieved through a combination of two brain areas, the cognitive belief system and the emotional limbic responses (Logan, 1999).

1. Neuro-Physiological solutions:

1.1. Rational Emotive Therapy:

Rational Emotive Therapy is based on the previous mentioned point. People influence their behaviors just by their perceptions about the world, and the way they talk to themselves about their experiences and memories. The rational emotive therapist is expected to face and defeat the wrong and irrational beliefs adopted by the patient and test those wrong believes against rational, logical and sincere thoughts. Logan stated explaining the idea of Ellis (1984):

> Rational emotive therapy challenges the belief system of the client by forcing the client and clinician to evaluate emotional consequences of events in a more rational and honest manner. Instead of reinforcing irrational beliefs ('I'll never be able to talk better!') the client learns to evaluate events realistically and more honestly what Ellis refers to as 'more rationally'. In this way the belief system can be cognitively modified; responses that were conditioned and reinforced by an inappropriate belief system can be altered and new responses can be learned in their place. (Logan, p. 54)

Thus, Ellis posits changing our belief system through honest, rational and convincing evaluations may lead to an adjustment to negative emotional perceptions, and therefore

positive responses are acquired. The subject is expected to develop a realistic view of critical emotional responses instead of developing secondary behaviors as an avoidance strategy.

The Rational Emotive Behavioral Therapy (REBT) is also referred to as A-B-C paradigm. A: An event occurs, B: an emotional response is generated and C: the self-talk that determines the emotional response. Since the REBT aims at the inappropriate beliefs of patients, the therapist asks the clients to speak in situations they have always tried to avoid because they believed they will stutter, and therefore feel terrible. After that, patients are asked to answer specific questions about their beliefs like 'Why would it be so terrible if I stuttered?'(Logan, 1999)

New contributions were added to the REBT. The “Double” is an REBT technique in which the therapist converses with the patient; the former mentions a list of irrational beliefs and the latter argues against the irrational beliefs (Ibid). Furthermore, since REBT has been merged with motor imagery, people who stutter may imagine the worst that could happen in a form of irrational beliefs, as well as their counter arguments.

1.2. Motor Imagery:

Dally (1988) suggests a treatment technique called motor imagery which relies on mental activity. The idea of this technique is asking the subjects to imagine themselves performing perfectly any speech activity before they do the real performance (Logan, p 86). It may be of great help because the brain doesn’t differentiate between real and imaginary processes. Although stuttering is unlike other activities (sports), due to the fear that it is associated with, imagining speaking fluently can still be of great help (Logan, 1999).

To understand better the motor imagery techniques, one may think of them as warming up exercises where brain structures responsible for speech are prepared and conditioned to produce normal speaking operations without any disorders. Moreover, they could reduce the intensity of negative responses associated with speaking for adults and eliminate them for children (Ibid).

1.3Guided Visualization:

A similar technique called guided visualization is used by Carl Scott (1998). The clinician is supposed to describe a scene for the client to visualize him or herself. A

further explanation of this technique is provided by Logan in: “This allows the practice of more appropriate emotional reactions to speaking as well as fluency practice through motor imagery. Hierarchies of stress can be determined and incorporated into the technique.” (Logan, p. 88) The involvement of the hierarchies of stress might familiarize the patient with the emotional responses that accompany stuttering, but he or she can still speak fluently when doing visualization, and through repetition it could either be easier speaking with emotional arousals or even learning new positive behaviors that does not include such negative behaviors as fear of failure and anxiety.

To understand better the motor imagery techniques, one may think of them as warming up exercises where brain structures responsible for speech are prepared and conditioned to produce normal speaking operations without any disorders. Moreover, they could reduce the intensity of negative responses associated with speaking for adults and eliminate them for children (Logan, 1999).

1.4. Fluency-Shaping Therapy:

Fluency shaping therapy is another kind of therapy in which stutterers are supposed to control their breathing to speak more fluently. People who stutter are expected to speak in a low rate of delivery. The writer stated: “This is done be stretching consonants and vowels. In addition to that, there is also constant airflow and soft speech contacts. The result of this technique is a fluent speech that is slow and spoken at a monotone level” (“Stop Stuttering”, p. 21). With enough practice, the speech rate will start to sound normal, and People who stutter will be able to communicate naturally with people. This technique has proven to be useful (“Stop Stuttering”, p 21).

For those who want to use medications to treat stuttering, their results were not so satisfactory. Anti-convulsants, Anti-depressants, Antipsychotic medications, Anti-hypersensitive medications and Dopamine antagonists have been used as a cure to stuttering, but studies have shown that only one of a group have had stuttering reduced less than 5 percent; besides, subjects who have tried them experienced serious side effects (“Stop Stuttering”, p 21). There is no doubt of medication therapy failure not only because the area in the brain that causes stuttering is not yet determined , which is to be targeted with a medicine, but also because these medications try to alter or stop processes

of certain brain structures that surely have different functions other than speech or emotions.

1.5. Brain plasticity:

Lavid (2003) in his book 'Understanding Stuttering' defines brain plasticity as: "…ability of the brain to change in response to environmental and psychological stimuli. The concept of brain plasticity was first proposed in 1949 by Canadian psychologist Donald Hebb (1904–1985)." (Lavid, p 47). Considering environmental stimuli, the brain can adapt itself by adding new circuits to enable the brain to process better. He explains further the theory of Hebb stating that:

> …brain modulation occurred at the neuronal level. The tenets of his proposal were that an enriching environment stimulated neurons in the brain, and that stimulated neurons recruit other neurons to join them. Moreover, repeated neuronal stimulation will promote further connections, and thus change the anatomy and function of the brain to perform better. (Lavid, p. 47)

Researches have confirmed that the brain remodel itself (Lavid, 2003); hence, we should focus on finding the most suitable environmental stimuli to extend the function of the neurons; in addition, each behavior has a specific technique to improve its neuronal processes. Ergo, scientists have been working on a certain maneuvers that enhance functions of the brain with regard to improving abilities of humans in general or correcting malfunctioned behaviors like speech impediments. As for stuttering, certain techniques are employed to initiate fluency in those who stutter.

What is interesting is that these maneuvers are connected in a way or another to hearing (Ibid). One of the maneuvers is singing. It helps to induce fluency not only because stutterers don't stutter when they sing, but also because it is believed that the right hemisphere is responsible for singing unlike speech which is a left hemisphere phenomenon, so singing requires the contribution of different brain structures than those of speaking. This maybe the secret behind singing without stuttering (Ibid). Impersonating another person's voice is another maneuver. It seems that singing and impersonating another's voice lack the actual conversing situation and all of its components, such as the involvement of feelings (moods) that are subject to constant

arousals and changes, and this seems to be the reason why people who stutter don't stutter when they do these actions.

People who stutter speak in complete fluency when they perform Choral speech or speaking in unison with others. The writer provides an example of that:

> "…reciting the pledge of allegiance…a good way to instill confidence in children during therapy is to ask them how bad they stutter while reciting the pledge at school. Invariably, children will answer that they "don't stutter" at this time This fluency from choral speech helps children grasp that they can speak without a stutter, especially in front of their peers, and is incorporated in speech therapy" (Lavid, p. 49).

Speaking with a metronome reduces stuttering, and it can be used along with speaking in unison; moreover, there is a cadence to be followed, and if the beat is at a slow rate, fluency improves. In addition to that, it has been postulated that Anticipatory anxiety can be reduced when speaking with a metronome, and therefore a distraction is created to decrease the anxiety-fueled exacerbations of stuttering (Lavid, 2003).

Speaking Alone is also a technique used to improve fluency. It is helpful as it allows people who stutter to experience fluency. In addition, When speaking in front of people, their reactions give a negative perception of fluency, and the writer adds that "people who stutter tend to believe they stutter more than they actually do, and this perception fuels anticipatory anxiety." (Lavid, p. 49).Furthermore, it is one of the ways that restores confidence for those who stutter.

As it is so difficult for a learner of a second language who has a stutter to progress in his learning, he or she could benefit from a maneuver called adaptation. The latter is about rehearsing loudly their speech or what they need to present (a research…) before they do the actual presentation. It is like practicing something many times until it becomes easier.

It seems that the less people who stutter hear themselves talk, the more fluent their speech is. A good example of that is whispering. When whispering, stutterers are likely to speak more fluently . Therefore, auditory masking can be of great help since one could not hear himself or herself completely; for example, by playing white noise in a headset

(Lavid, 2003). Most of these techniques are used in speech therapy. Practicing them regularly may be of great help in inducing fluency.

1.6. Delayed auditory feedback:

Delayed auditory feedback is a recently discovered technique (1950). It was discovered by accident when an Army engineer, Bernard Lee, was practicing a new electronic tape recorder, which enables recording and at the same time hearing what you are recording. But, unfortunately, when he mistakenly placed the input for his headset in the wrong jack, it was not at the same time as it was some milliseconds delayed by the jack he has plugged his headset into, which developed a stutter to him . This did not happen just to Lee. Some other fluent people had tried that, and developed a stutter. So until now it is believed that any fluent person who tries that will develop a stutter too, or extend syllables (Lavid, 2003).

Since that time, Delayed Auditory Feedback was tried on the treatment of stuttering assuming that it will have the opposite effect on those who stutter. The subject of delayed auditory feedback remains highly controversial as :

> Some believe that delayed auditory feedback reduces stuttering in those who stutter by slowing down the rate of speech. This is based on the fact that delayed auditory feedback causes some people to prolong syllables in their speech. Another theory is that the auditory system is involved in stuttering and delayed auditory feedback affects an "auditory feedback loop. (Lavid, p. 51)

The loop refers to the connection between speaking and hearing. In addition, people can change their speech by listening to it (Lavid, 2003), and alter their speech rate to reduce or increase its prolongation that is easily done by the delayed auditory feedback software. The writer suggested that the delayed auditory feedback works and that it is used in speech therapy, and stated that: "Even though the effect is temporary, the fluency-inducing power of delayed auditory feedback has made it a prominent force in speech therapy." (Lavid, p.51)

The Delayed Auditory Feedback definitely has an effect, but whether it induces fluency for those who stutter or not is, still, not a hundred percent provable. From a personal experience, I have tried the delayed auditory feedback for two or three days, but

it seems that it caused my stutter to become unexpectedly more severe. Therefore, I think that the delayed auditory feedback is not supposed to make us stutter every word we say to start working properly, fighting our stutter. Hence, it might have reduced some people's stutter (temporarily), but we think that it is not the right choice to make as we still do not know exactly what it is capable of damaging or fixing.

Finally, hearing is of crucial importance to speaking since we have seen how it could influence speaking in delayed auditory feedback and in using auditory masking. After all, people who can not speak can not hear too and vice versa. For this reason, if we can uncover the secrets underlying the connection between hearing and speaking, we may be able to find the real causes, and, hence, treatment procedures to stuttering.

1.7. The Valsalva Mechanism:

As for a stutterer, in order to change the abnormal way of speaking, that is restoring the correct articulation of speech without the interference of the Valsalva Mechanism, parry suggests that all of the contributions to the therapy of stuttering influence in a way or another the alteration of the Valsalva Mechanism to become normal (Parry, 2009).

For example, practicing with easy vocal onset, emphasizing phonation (singing, stretching syllables) and devices that alter the auditory feedback, could help lessening the air pressure and program the larynx to perform phonation instead of effort closure when speaking. In addition, delaying the auditory feedback may help processing words as a sequence rather than things to be forced out of the body. Most importantly, the psychological approaches can contribute to reducing or removing the anticipation of difficulty in the case of a person who is going to stutter (Ibid).

1.7.1. The Valsalva Control:

The Valsalva control is an approach of therapy which is different from other approaches as it does not aim at changing the speech of the person; however it targets the physical force of the body, in this case it is the Valsalva Mechanism, which interferes with the articulation of normal speech (Ibid). The writer suggests some recommendations to be practiced :

> Breathe abdominally (from the diaphragm), and relax your abdomen as you exhale. Speak each phrase at the same time as you relax your

> abdomen. Start off by practicing with very short phrases, then gradually increase their length. Concentrate on the relaxation of your abdomen as the act that controls your speech. Forget about your mouth. Pretend that you're talking from your navel. (Parry, p. 54)

The writer also recommends that the Valsalva Relaxation should be practiced every morning. The purpose of the exercises is to re-program the nerve pathways for speech to become natural; moreover, he suggests to stutter voluntarily, and then to perform abdominal relaxation. Another way is to reduce Valsalva maneuvers during the day (Parry, p 56). All of these exercises may help controlling our Valsalva Mechanism to make it function in its natural way.

1.7.2. The Fluency Cycle:

Parry describes the Valsalva control as "holistic" as it involves modifying psychological as well as physiological aspects of the Valsalva stuttering cycle.

1.7.2.1. Develop a Positive Attitude Toward Speech:

People who stutter should consider stuttering as an easy experience, and it is better for them to accept the fact that they stutter without trying to hide it.

1.7.2.2. Resist the Urge to "Try Hard":

It is very important to believe that speech does not require effort, and that effort empowers the block to occur. The writer also stated that: "Whenever you think you must "prove" your fluency, you've already lost the ball game" (Parry, p. 60). In fact, the act of speaking is naturally easy, smooth and effortless, so just let it sound natural.

1.7.2.3. Relax the Valsalva mechanism —don't force:

To relax the Valsalva mechanism, Parry suggests that it is better to breath abdominally using the diaphragm by relaxing the abdomen while exhaling, speaking each phrase when relaxing your abdomen and speaking in short phrases

1.7.2.4. Focus on Phonation and Vowels:

Focusing on the music and resonance of speech can be very useful as it helps to keep the larynx relaxed and open. Parry recommends stretching or prolonging the syllables if necessary.

1.7.2.5. **Speak Slowly and Deliberately, without Avoidance:**

It is strongly recommended for the subjects who stutter not to speak very rapidly, not to use avoidance strategies, not to substitute words, and to maintain eye contact even in the middle of a block.

1.7.2.6. **View your Speech Objectively, without Shame or Blame:**

Parry suggests that learning from our speech experiences is very crucial to therapy. Actually, since confidence helps us speak more fluently, experience is the best way to maintain confidence. He adds that we should speak as much as we can and change the false belief that using force and avoidance strategies contribute to speaking fluently.

2. Socio-Psychological solutions:

As a student or specifically a language learner, stuttering could be the worst obstacle that faces him or her since learning a language mainly depends on mastering the speaking skill that is usually practiced in oral expression classes. Harrison (2011) suggests ten key elements that may help conquering fears of speaking before people. All of the elements seem to share the enhancement of the psychological aspect of the human life including confidence. Each key point is followed by an exercise to be performed in front of a group of people in the stuttering association, but we will only focus on the points.

2.1. How to Conquer your Fears of Speaking before Others?

2.1.1. Claiming Your Space:

Being fixed in one place is something we usually do when our lives are at risk, but when we are comfortable we show that by moving freely; therefore, if anyone is to speak before people, whether a stutterer or not, Harrison recommends that he or she keeps moving freely from place to place, and it is better for them to touch whatever they find on the table or put their hands on a coach. As if they are claiming what they touch as their own just like when they are at home where they certainly feel comfortable. In addition, by doing that, they show the audience that they are comfortable, so the audience will feel comfortable too. And this enables them to feel that they are in control (Harrison 2011). Many benefits can be inferred from claiming the space. We can say that it mainly

maintains confidence, and it makes us familiar with this kind of discomfort that is associated with speaking before people.

Harrison mentioned that there are creative and negative discomfort. The former is associated with doing something, which means that there is a release of energy and letting go. The latter shows that something is prevented from being expressed.

2.1.2. Speaking Up:

Students, especially those who stutter, who are not accustomed to speaking before people usually speak with a lower tone of voice. Harrison believes that when we do that "It's as if we have to compensate for being in a commanding position by toning ourselves down and pulling back. When you're in front of an audience, you're in a place of power. Acting forcefully in that role indicates that you really enjoy being there." (Harrison, p. 529). Therefore, one should practice to speak with an increased voice to take advantage of the powerful position that he or she has, so that the feeling that we are in a powerful position will be normal and easy for us as it helps diminishing the feeling of anxiety and fear of speaking.

2.1.3. Adding the Music:

Harrison suggests an exercise about changing the volume and pitch of the voice. It resembles the way you tell a story to little children. The change in volume and pitch is meant to keep them following you. People who stutter don't stutter when they sing. Therefore, like talking to children, try to practice on altering the volume and pitch of your voice. This shows that you are not afraid of letting go . It is better to find a group to practice that with, or you can practice when you are with friends or family. Otherwise, in order not to appear silly, try that with classmates without exaggeration and focus on stress, intonation and emphasis since the English phonology is based on that.

2.1.4. Learning to Live with Pauses:

People who stutter often find themselves stuck "blocked" in certain words because of the anticipation that they are going to stutter. Harrison proposed this exercise where the subjects are expected to experience pauses deliberately. The pauses vary in time length. They can be short and long at the same exercise. If that is possible, learners who stutter

may practice that with classmates by asking permission from the teacher of Oral Expression course, or they can practice that with friends or family. But, Harrison asserts that it is of crucial importance to maintain eye contact and to stay conscious and aware during the pause.

2.1.5. Look ‘em in the Eye:

“The eyes tell a lot. They’re the windows through which the soul communicates.” (Harrison, p. 540) Moreover, we can say that the eyes play the role of the mirror that reflects what we feel. Harrison stated that “Some very specific things happen within the eye which relate directly to the emotions. For example, when you’re feeling soft, trusting and expressive, your pupils dilate.” (Harrison, p. 540) Therefore, without eye contact the conversation lacks its spirit which is the exchange of emotions. We might want to stay away from getting emotionally involved because there is this kind of fear which is described by Harrison as follows: “ What’s the fear? It could be the fear of being judged. Or a fear that you’re looking foolish or coming off too dominant. Or an uncomfortability about getting too personal. Eye contact brings these feelings to the surface.” (Harrison, p. 540) Hence we should maintain eye contact to get rid of such untrue emotions

Since emotions are very important in speaking situations, we really need to share them through eye contact. When speaking to a group of people, this job is going to be more difficult. Therefore, the writer recommends practicing visualization a few minutes daily before doing the presentation. It is like the technique of visualization that we talked about earlier, but this time it involves visualizing yourself performing eye contact while you are talking to the targeted audience. Do not forget to observe how you feel when you practice that.

2.1.6. Letting Your Feelings Show:

Harrison asserts that hiding what we feel might lead to negative physical effects due to the chemical reactions that are released by the body that prepares it to do physical effort. Hence, he suggests doing a presentation in front of a group of people showing your feelings; for example, that you are angry about something terrible happened to you. It would be great if you have the chance to practice that, but if you can not, just try not to

hide your feelings, and share them whenever it is necessary. However, as for the negative feelings that are associated with stuttering, just let them go peacefully without considering them as something big because they are not.

2.1.7. Stuttering on Purpose:

Harrison stated that "… if you want to get rid of a problem, you first have to embrace it. Accept it. Make it part of you." (Harrison, p.549) In this speech, exercise we are expected to do the very thing that we hate to do, as far as speaking is concerned, to stutter on purpose. Thus, this requires extraordinary courage to do so. Harrison explains that stuttering is the kind of problem that can't be solved like in mathematics, but rather dissolved. To understand that, he provides a good example:

> 10-year-olds Tom, Dick, Harry and Johnny comprise a gang that's continually in trouble. You want to curtail their activities. How do you do it? You'll probably have only limited success if you deal with them as a gang. That's because there's a chemistry between them that spells trouble.The more you deal with them as a gang, the more you confirm the gang's existence. And the more you reinforce its behaviors. But if you induce them to join a youth group and get involved in other activities, the Tom, Dick, Harry and Johnny gang becomes dissolved into a larger setting. (Harrison, p. 550)

Therefore, the more we address stuttering directly, the more we maintain its existence. What we need to do is to stop fighting our speech by applying the following points:

> (1) allow yourself to experience the feelings, (2) explore whether these feelings are as intolerable as you think they are, (3) discover that allowing yourself to "have" the experience gives you a measure of control over it and (4) be open to the other non-stuttering related issues that may also affect what's going on (Harrison, p. 550).

We need to develop a self image that tolerates and incorporates both our stuttering and fluent behaviors. This means that we should accept the negative feelings that are associated with stuttering without paying attention to what others think of us because this is only something we seek to answer , and it will not make any difference except to satisfy ourselves. Harrison adds that "The moment you are willing to give up your old

self-image, you make possible incredible opportunities for change. What this speech is about is learning to expand your self-image to include your occasional disfluent self" (Harrison, p. 552).

This exercise is expected to be performed before an audience, but if you don't have the chance to do that, try to do it with friends or family. Since stuttering is inevitable, try to stutter purposefully. It seems that the whole point is to enable you to experience the feelings that associate the stuttering behavior where you are in control of that, and to convince your subconscious that it is not that hard and that it is not a matter of life and death.

2.1.8. Using Your Body:

It is not something easy to try to appear comfortable when you are actually nervous. (Using body language may help you feel more relaxed. It enables you to reducing stress on speaking by focusing more on paralinguistic features. The writer stresses the fact that it is contradictory to give a speech and at the same time to stand still as if you don't want people to notice you because you are nervous or afraid. This two paradoxical intentions will cause us to block.

In an Oral Expression Class presentation, it will be perfect if you choose a topic that involves showing your classmates how to do something where you can use your body language along with speaking like how to cook a food or play a game. This method can be of help to those who have a stutter and those who don't because it aims at lessening stress of speaking before people.

2.1.9. Interacting with an Audience:

When we give a speech, we could try something very beneficial, which is to reach out to somebody. Many of us who stutter are afraid of the idea of communicating with others; thus when giving a presentation try to communicate with anyone from the audience to diminish such irrational anxiety; besides, when doing that, we are communicating on a personal level that is socializing with people instead of isolating ourselves. Having that kind of fear builds the perfect ground for the block to happen. Thus, for a successful communication, we need to break down the barriers by interacting with people.

Being outside of our comfort zone is one of the things that we hate as stutterers. Therefore, when asking questions or getting the audience involved in our presentation, we are in a powerful position; hence, we need to benefit from that at least by experiencing the fact that it is something normal instead of feeling uncomfortable about it. For the simple reason that this is something ordinary that all humans do respectfully. The point here is that we should break the wrong boundaries of our old self image, and act normally about such behaviors because this is who we are.

Harrison suggested some ways that help you connect with people during a presentation. Primarily, they are asking questions and getting the audience to participate physically by helping you demonstrate a map for example. Both of these methods can perfectly be performed in an Oral Expression Class Presentation. As for questions, he proposed an interesting type of questions to be asked:

> To get your audience more involved, you need to find questions that stimulate response. Questions can relate to...
>
> a) Information — “Does anybody know which is the largest river in the world?”
>
> b) Human nature — “If I drew a pistol on you right now, what would you do?”
>
> c) Perception — “Look carefully at this ink blot. What do you see?”
>
> d) The future — “What do you think would happen if the world ran out of fossil fuel?” (Harrison, p. 560)

2.1.10. Inciting People to Action:

One of the most difficult tasks is to incite people to do something, whether you have a stutter or not. In this exercise we are expected to exploit all of the previous exercises from claiming your space to interacting with an audience to make people do something. In addition, since we are to ask people do something outside their comfort zone, we need to get them care enough to do it. This is achieved first by choosing a topic that we personally care about. Second, the topic we choose should also matter personally to our audience. Furthermore, beliefs are the source of our power; therefore, we need to show our inspiration and believe that the task we chose is worth doing.

If this is possible, it is preferred during one of your presentations to try to ask your classmates to do something about a current event. For example, like sharing the information in facebook that there is a hunger in Ethiopia which needs donations from all over the world to fight it, or that there is aggression and injustice in Palestine that must be known to the entire world. Remember that these are only examples, and that you can choose whatever you find suitable for you. We advise you to agree on what you are going to do in the presentation with the teacher, and let your classmates know too. Whereas, if you can't perform that under any circumstances, juts try to keep in mind the suggested steps whenever you try to convince somebody about something important or you want to share your opinion about any question.

The writer suggests these exercises that make public speaking easier , and; therefore, to help us discover that speaking can be satisfying and a fun activity, and to feel the confidence that comes from being in control of our speech blocks as well. Moreover, Harrison adds that "you may find that the more you stop worrying about fluency and the more you pay attention to what makes speaking fun, the more fluent your speech is likely to be" (Harrison, p 567). We can notice that there is a common objective in all these exercises which is to alter the psychological weaknesses of the stuttering personality.

2.2. Influential Factors in Therapy by Fraser (2007):

One might consider a self-therapy program especially if the needed pathological treatment by a speech pathologist is not available.

2.2.1 Your Feelings and Emotions:

"Stuttering is largely what the stutterer does trying not to stutter" (Fraser, p 19). This means that the more you try to force the words out, the more you are likely to stutter. Therefore, if we learn not to panic when we anticipate stuttering, or when we stutter, we might be able to eliminate stuttering or at least reduce the frequency of stuttering (Fraser 2007).

2.2.2. Tension and Relaxation:

Tension that precedes stuttering is believed to be an essential cause for stuttering to happen. Hence, learning to relax while speaking can be of great help. As it is known that talking in a relaxed, slow, calmer manner will induce fluency. To be more precise, one could relax specific muscles those which are involved in the articulation of speech like lips, tongue, mouth, breath and vocal cords by excersing on them when you are alone. In addition, the writer also recommends to do some physical exercises in order to enhance self confidence that is absolutely required for stutterers. The latter could be beneficial especially when doing a presentation as the shape of a good bodily position may help being confident, and therefore to speak more fluently. Finally, the writer asserts that adopting an assertive attitude and believing in one's endeavors will certainly contribute to building the confidence that is needed for a better speaking experience.

2.2.3. Distractions:

Anticipation of stuttering seems to be the main reason that leads to stuttering; thus, trying to forget about your stutter by any physical technique to distract you from the speaking situation as: "talking while tapping a finger, swinging an arm, or stamping a foot" (Fraser, p. 25) helps you to speak more fluently. Furthermore, just thinking about such techniques can be a sort of distraction. However, each technique has temporary effect. In fact, any kind of technique can be useful. One could think of some techniques by himself or herself and find out what is suitable for him or her. For instance, we can use some psychological technique too like trying to figure out what the speaker is thinking of (to read his or her mind), or to observe the way he or she is speaking. The point is to help you pay attention to other things than anticipation of stuttering. For a better control over emotions, one could try to learn more about emotional intelligence.

2.2.4. Enlisting the Support of Others:

Other people may play an important role in your stuttering especially if he or she is a close friend or a family member. He or she is able to observe and assess the things that you can't be aware of about your stuttering. It would be great if this person is acquainted with the subject of stuttering. In addition, most importantly, such a person is expected to be willing and able to encourage and compliment you throughout your treatment process.

2.2.5. Your Determination:

Determination is a key factor that helps us maintain fluency. Making sacrifices like facing embracement, stress, and negative feelings is inevitable to achieve fluency. Therefore, one should be determined and willing to pay that price because fluency is worth all of that. This depends on your willingness to continue the whole way of treatment, and how much fluency means to you.

Considering that stuttering is a behavior that is subject to change or modification, the writer confirms that stuttering is “something you are doing and you can learn to change what you are doing” (Fraser, p 30). To overcome stuttering, the writer suggested that one should understand what he or she is doing when stuttering, and focus on the nature of problems he is having with his or her speech mechanism. By doing that we could be able to alter the abnormal behaviors, and improve our fluency.

2.3. A helpful therapy procedure:

Fraser suggests a therapy procedure that could cause immediate relief as it helps to speak more fluently. People who stutter are required to speak slowly and smoothly by prolonging the starting syllable which might take a second or more. Just like making change, this will feel difficult in the beginning, but it will have immediate progress. Do not talk like that all the time until you practice very well (Fraser, 2007).

In other words, since words are compound of sounds, try to pronounce the first sound of each word slowly and smoothly. After that, try to “prolong all sound as you voice them using continuous phonation That means stretching out and prolonging practically every consonant and vowel sound, and sliding through and slowing the transition from one sound to the next sound” (Fraser, p.34). This means that your vocal cords are vibrating continuously as if you are pronouncing voiced consonants. In addition, the writer stated “start your vocal cords vibrating in a low, steady, very slow way as you begin to make the sounds of your words in this easy onset manner with light pressure in your tongue and lips, also known as ‘light contacts’ ” (Fraser, p. 34). By practicing that, you will be able to speak without repetitions. This resembles fluency-shaping techniques.

This way of speaking should be used on feared words and non-feared words. To achieve that, exploit this technique all the time until it becomes a habit for you.

Moreover, you are expected to speak as slowly as 30 words per minute, so when you feel uncomfortable an embarrassed consider the fact that this method can be so helpful (Fraser, 2007).

After an enough time of practice when alone, you can apply this method while conversing with people, and if you are questioned about that strange way of speaking, just share the truth with people around you because it is alright if people know that you stutter, besides, persons close to you will be glad to help. When you feel that you have practiced with people for a considerable time, try to raise gradually the speed of your speech, but if you feel any difficulty, return to the slower way of speaking.

Following this program will enable you to attain appreciable progress and bestow on you relaxing relief. The writer adds that "It may not solve your problem completely but will most likely be helpful. In any event, it will show you and others that you are accepting your stuttering as a problem, not as a curse, and are working to cope with it. People respect that attitude" (Fraser, p. 36). To understand the way you are supposed to talk, look at this example:

"IIIIIIIIIaaaaaaammmaaaaaaannnAAAAAAAllllggggeeeerrriiiieeennnn".

The way of saying that is explained below:

> "stretch each vowel for a second or two. Also stretch voiced consonants (e.g., /m/, /n/, /r/) a little longer then normal, but not as long as vowels. Articulate voiceless consonants (e.g., /k/) lightly and quickly, just touching your lips or tongue and then moving to the next voiced sound. Join the syllables together, with no breaks or pauses between words. The result should sound like (where each letter is one-fifth of a second)" (Speech-language Pathology)

The writer stated that this is not a permanent way of talking. Try to keep talking like that until you achieve fluency or find some other ways of therapy because "First, it may not work for you at all times in all situations. You may find it difficult to remember to use the fluency shaping techniques when stressed or excited. Secondly, you may not feel comfortable speaking in this way with all listeners." (Fraser, p. 37)

Finally, hard work on the program for two weeks or more will show you its effectiveness (Fraser, 2007). It is strongly recommended for anyone using this program to practice it along with the ten previously mentioned elements in "how to conquer your fears of speaking before others". We believe that this integration may cause great progress in treatment because you are working on both the physiological aspect (improving your speech mechanism including the correction of the nerve pathways) and the psychological aspect (learning how to face secondary behaviors including fear and anticipation of difficulty) of stuttering. You are truly realizing two objectives in the same procedure.

2.4. 'Tim Mackesey' A Speech Pathologist who Recovered from Stuttering:

Harrison, in his book Redefining Stuttering, mentioned some articles written by specialists who have themselves stuttered telling their story. Some of them have completely recovered from stuttering, like Harrison, and others are still fighting it, but they really do know how to do that.

For instance, since he was a child, Tim Mackesey has suffered from stuttering. He was a speech-language pathologist, and he had a stutter. This seems to be the most challenging thing that might face a stutterer, to be a speech pathologist. However, a speech pathologist should be fully aware of the issue of stuttering; thus, it would be very beneficial if a speech pathologist was or is a stutterer. We guess this is why Harrison mentioned several recovery stories of some people who stuttered. We are going to pick the story of Tim Mackesey, and see the most effective techniques that helped him deal with his stutter knowing that his self-therapy procedure is also inspired by neuro-linguistic programming since he earned NLP practitioner certificate.

Tim Mackesey stated that he started to try to overcome his stutter by applying traditional speech therapy which targets the speech system by using slides. The latter is done "by prolonging the first sound of the word with light contacts in the articulators and larynx" (Harrison, p. 349). Just refer to the previous point (a helpful therapy procedure) to understand light contacts. For more illustration, he said that "If I started to stutter, I would use a "pull-out"—that is, I would terminate the stutter, then pause and say the word again with a slide. After a pull-out, I would say the word again with a slide"

(Harrison, p. 349). However, in some situations where the level of anxiety is very high, he stated that he lost control over himself and his brain, so this procedure was less helpful. In addition, he felt that changes in his abdomen also contributed to stuttering, in addition to his mouth and larynx (Harrison, 2011).

After considering his abdominal anxiety as a messenger telling him to use pull outs and slides, Tim Mackesey changed his mind from focusing on correcting and altering his physiological aspect of stuttering to focusing on removing the anxiety that forms the ground to the stuttering behavior to occur. Therefore, he said: "I started changing my objective, moving away from focusing on motor speech strategies to removing the process that created anxiety"(Harrison, p. 350). To eradicate the anticipatory anxiety, he used a neuro- semantic technique called the "drop-down through". This technique helped him remove the residual tension in the articulators (Harrison 2011). Neuro- Semantics is a branch of Neuro- Linguistic Programming which is "a model that helps you take charge of running your own brain by identifying disempowering thoughts, values, beliefs and perceptions and restructuring them to be more empowering" (Harrison, p. 304).

Thus, Tim Mackesey suggested some concepts, tools, and techniques he found helpful. We may summarize them as follows :

2.4.1. Somatic memory:

Remembering a positive memory enables us to feel the good feeling that was associated with it, and vice versa. If we recall a negative past event, we are likely to reexperience the uncomfortable feelings. Hence, for example, when we try talk on the phone, we remember the stutters we made on phone, and this is what generates our anticipatory anxiety that leads to stuttering. This could be a specific name, situation(oral presentation)… etc. In addition, what we recall along with negative feelings includes the tendency to mind read what others might think of us when we stutter, which maintains the anticipatory anxiety (Harrison 2011). For more explanation, Tim Mackesey stated that:

> I began to see that if I sat in class "knowing" I was going to have to read aloud, my somatic memory would trigger the panic sensations associated with similar unpleasant experiences from the past. This is what inevitably

> led to my stuttering and blocking. My big question became—"What could I do about it?" The good news is that negative memories can be cancelled out by overlying them with somatic memories of positive events. These "borrowed" positive feelings can help you transform a negative experience into a positive one (Harrison, p 351).

2.4.2. Anchors:

An anchor is a particular memory that leads you to experience the feelings and meaning of a particular event. For example, by thinking of a song, you are likely to remember when, where or with whom you heard it. The writer stated that "You can choose to replay the song to reexperience what you felt like back then. The song becomes an anchor to that earlier, positive mindset" (Harrison, p. 351).Therefore, he said "

> I had developed a stuttering timeline with anchors to many fearful words and situations…For example, when the assistant manager's line rang at the hotel, I was instantly anchored to an earlier feared event, and I'd quickly slip into a state of panic. On the other hand, if at the first sign of fear I could anchor myself to a positive experience from the past, I could short circuit that panic state and stop it from developing" (Harrison, p. 351).

2.4.3. Time line:

Every situation of stuttering that is accompanied with embarrassment and frustration creates a point on the stuttering timeline. The points on the timeline are somatic memories and anchors for specific moments of stuttering, which influence present behaviors and choices**.**

When we stutter in a specific event, we give a negative meaning to that event, for example reading a loud, in our memory, and we keep stuttering in similar events. Thus we need to go back and change the meaning we gave to that event to remove the anticipatory anxiety.

2.4.4. Linguistic search engine:

The linguistic search engine is a mechanism in our brains than enables us to detect a feared word. In the case of stuttering, it will lead to immediately identifying the feared word, and hence to the anticipation of difficulty. To understand more the writer stated that:

> By re-imprinting our somatic memories of feared speaking situations and removing negative meaning from them, we find it less and less necessary to fire up our linguistic search engine. The only reason we remember the stuttered words in the first place was because we applied meaning to that past moment of stuttering. Thus, when the search engine is not running any more, we remain more grounded and fully in the present (Harrison, p. 352).

It sounds that the negative feelings that were associated with certain words resulted in establishing negative perceptions of these words, which were kept in the memory, and triggered whenever the words are used.

2.4.5. Reframing:

Applying (negative) meaning to words causes us to anticipate stuttering, feel panic and remember specific words sounds, speaking situations, and all other cognitive memories of past stuttering events. In fact, humans associate meaning (feeling) to all of their experiences by setting up frames of reference. Therefore, if we want to erase negative meanings, we need to reframe the negative meaning we created for stuttering. Our negative untrue perception of stuttering is the frame that is responsible for generating panic and anxiety. To regain fearless speaking situations, we should reframe “the meanings we give to the speech-related moments of our life — turning negatives to positives” (Harrison, p. 353). Marcus Aurelius said “Men are not disturbed by things, but by their estimate of things” (qtd in Harrison, p. 353).

This point resembles the Rational Emotive Therapy technique that we have seen earlier although it seems specifically related to meanings of previous memories while the RET targets the irrational believes in general.

2.4.6. Breaking State:

The feeling of anticipation that is felt by the stomach gives us a hint to stop or interrupt the flow of speech, and then to use the techniques of NLP and neuro-semantics including time-line therapy techniques, reframing and the Drop-Down Through process. Tim Mackesey said that by using such techniques "I was able to gradually dissolve the panic feeling that preceded stuttering. My speech flowed more and more spontaneously without ever having to resort to my old fluency modification techniques. I just talked without interruption." (Harrison, p. 353)

Conclusion:

To sum up, it appears that the aim of the mentioned neuro-linguistic programming techniques is to completely eradicate the anticipated anxiety that precedes stuttering, which is believed to be the main cause of stuttering. Therefore, one should learn exactly how to benefit from all the mentioned recovery procedures in order to be able to talk fluently like Tim Mackesey did. Since 2003 he has experienced fluency with a very rare anticipation of stuttering cases. Finally, for more information about NLP consult Harrison's book Redefining Stuttering in which you find more details and additional sources and Emails of specialists, like Tim Mackesey, that will help you understand and benefit from NLP.

Chapter three: Field Work

1. Review of Literature of the methodology:

1.1. Descriptive Method:

We have opted for the descriptive method to provide a comprehensive and a detailed view on the nature and causes of the stuttering phenomenon, as well as on most effective processes of recovery. The aim is that the learner of a second language who has a stutter will be able to cope with his stuttering and learn the second language more easily and efficiently. In addition, learners other than those who stutter can also benefit from the suggested methods of therapy that reduce tension and anxiety when participating in class. Herbert W. Seliger & Elana Shohamy define the descriptive method as: "...an approach may be concerned with describing second language acquisition behavior in a natural context , with no manipulation or little intrusion from the researcher" (Seliger, et al p.113). This view reflects the nature of our research as it is natural to face such difficulties like stuttering or fear of participation when learning a second language in educational settings.

Kothari (2004) said: "the major purpose of descriptive research is description of the state of affairs as it exists at present" (Kothari, p. 2). Therefore, by means of the observation we did, we have provided an accurate and actual description of the procedure of therapy that could be adopted by learners who stutter to achieve recovery. In addition, we have given a precise and thorough explanation to the nature and causes of stuttering, which would help both teachers to deal with a learner stuttering and learners who stutter to understand what's really happening when they stutter in order to enable them to correct misconceptions about the phenomenon.

1.2. Data Collection Tools:

The tools of collecting data we have used are a questionnaire and an observation. At the beginning, we intended to collect information only using a questionnaire, then we realized that the questionnaire would provide us with information that would fit in with the general aim of the study, but we want to provide more practical and reliable procedures for a specific point which is self-therapy. Therefore, we carried out the

observation, and it was useful considering self-therapy and the aim of our study in general.

1.2.1 The Questionnaire:

The questionnaire is a tool that "…consists of a series of questions and statements to which individuals are asked to respond." (Turney 1971:130). We have used the questionnaire to elicit information on stuttering, its causes and solutions. Actually, the questionnaire enabled us to gather information on several important issues about the stuttering phenomenon. Mainly, we have asked questions about the nature, causes and solutions to stuttering; the effectiveness of self-therapy and advice to learners who stutter.

Due to the fact that the time devoted to this investigation is so limited, the questionnaire was a suitable data collection tool to our research as it does not require so much time to get data back. We were obliged to translate the questionnaire from English into Arabic since our respondents in the center of psychological treatment do not speak English. Hence we will provide both the English and the Arabic version of the questionnaire in the appendix.

1.2.2 The observation:

The observation is defined as a “way of gathering data by watching behavior, events, or noting physical characteristics in their natural setting” (“Data Collection”, p 1). The observed event was how a speech pathology treatment is performed. This observation is very significant to our research as it depicts the practical and concrete aspect of our dissertation.

Unlike the questionnaire, Ellen Taylor- Powell and Sara Steele (1996, p1) hold that: “the observation provides the opportunity to document activities, behavior and physical aspect without having to depend upon people’s willingness and ability to respond to questions.” Therefore, it corresponds to the nature of our research, as long as it is important to mention how sessions of therapy are tackled to deal with stuttering because observation is used “when you are trying to understand an ongoing behavior, process, unfolding situation or event” (Ibid). In addition, it enabled us to provide an accurate description of the activities and exercises that are used to treat stuttering in order to make them accessible to learners who want to benefit from self-therapy. As a matter of fact, I

have been told by the specialist that the role of the specialist is to show the patient how to perform them and assess his progress.

Finally, The observation gave me the opportunity to talk to the specialist about the subject of stuttering and uncover some realities about the nature and causes of the stuttering phenomenon, which I have mentioned in the data analysis part.

1.2.3. Population and Sampling:

The target population of our research is the specialists and patients of the center of psychological therapy. In this institution, the internal patients are children who suffer from Down's syndrome which is a mental disability that may cause stuttering. External patients are those who do not suffer from Down's syndrome, but they go to the center to receive treatment for their stuttering. Thus, as for the questionnaire, the target population is all fifteen specialists whom we delivered the questionnaire. As for the observation, we have chosen one sample that consists of the speech pathologist and one patient to observe the process of therapy.

It is important to consider that " sufficient data can be obtained through the study of a proportion of the population: a sample" (qtd. in khanchali, 2008, p 8), as stated by Deldim and Damelin (1975). We have indeed found that our observation was very fruitful as we have recorded the techniques of self-therapy that we have observed, which can be exploited by learners who stutter; moreover, the speech pathologist shared with us important information about other procedures of therapy and stuttering in general.

2. Analysis of Data:

Introduction:

We have tackled this investigation to understand the nature and causes of the stuttering phenomenon and determine the most effective ways of its treatment in order to provide primarily an EFL learner who has a stutter, and secondarily any learner who faces difficulties in learning and participating in class because of being anxious, shy or hesitant with suitable procedures and advice. As a matter of fact many scientists and specialists would agree that learning a new language utterly requires speaking skills.

Therefore, to consolidate our investigation we have submitted a questionnaire to specialists in a center of psychological treatments including speech pathology, along with our personal attendance and observation of an actual speech therapy session.

2.1. The questionnaire:

2.1.1. Description of the Questionnaire:

The questionnaire was delivered to fifteen specialists in the Center of Psychological Treatments. It comprises eleven questions six of them are multiple choice closed-ended questions, and five of them are open ended questions. The first six questions elicit information on effective explanation and treatment procedures to stuttering. The next three questions discuss the effectiveness of self-therapy. And finally, the last two questions seek information on learners (namely students who suffer from stuttering and the possible pieces of advice we can provide them with.

2.1.2. Analysis of the Questionnaire:

Question 1: What do you think is the direct cause of stuttering?

Choice	Repetition	Percentage
Psychological	**4**	**25%**
Physiological	**2**	**12.5%**
Both	**10**	**62.5%**
Total	**16**	**100%**

Table 1

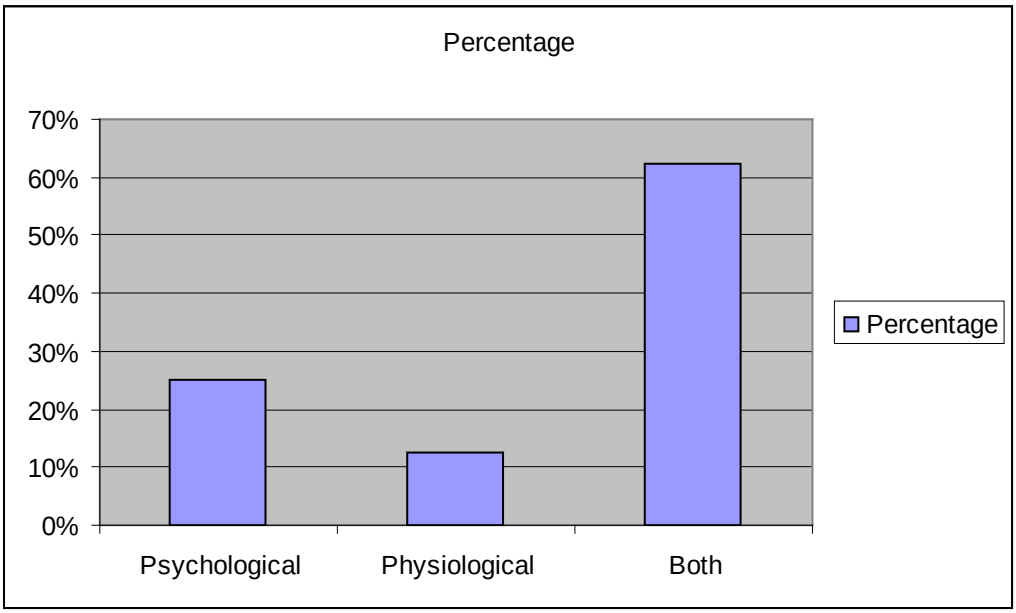

Figure 1

The results of this question show that the highest percentage 62.5% was given to the choice where the psychological and physiological factors are combined as a cause to stuttering. The percentage of the psychological cause of stuttering is 25 %, while the physiological aspect represents only 12.5%. Despite the fact that the therapeutical institution that I have elicited information from treats a considerable number of patients who suffer from Down ’s syndrome which means that patients have physical impairment of the speech system. The specialists consider stuttering as caused by a combination of both psychological and physiological reasons; moreover, the physiological aspect forms the lowest percentage.

Seemingly, these results agree to some extent with what we have hypothesized in the beginning of this research. However, researches about this important phenomenon are still carried on hoping that they come up with a more provable and reliable explanation to stuttering.

Question 2: what do you think is the most explicit explanation provided for the stuttering phenomenon?

Choice	Repetition	Percentage
Psychological	**6**	**37.5%**
Physiological	**3**	**18.75%**
Both	**7**	**43.75%**
Total	**16**	**100%**

Table 2

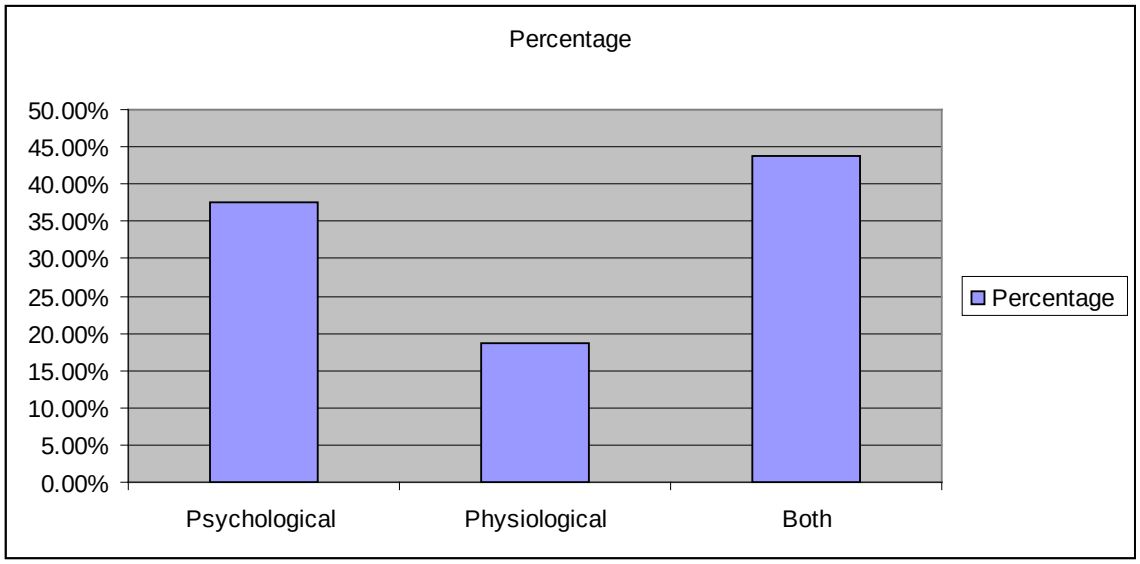

Figure 2

The greatest percentage 43.75% shows that the most explicit explanation is a combination between the psychological and physiological explanations of stuttering. A considerable number 37.5% of answers point out that stuttering is clearly explained by focusing on the psychological aspect. The remaining element is the physiological explanation of stuttering, which got the lowest percentage 18.75%.

The results of the second question unexpectedly show that either the combination of the psychological and physiological explanation or the psychological explanation alone can best explain the stuttering phenomenon. The results of this and the previous question agree to some extent with our hypothesis and what we discussed in the theoretical part.

Question 3: what approach do you use in this institution to treat stuttering?

Knowing that speech pathology stands for " Orthophonie" in French, some of the respondents (5) declared that they use "Orthophonie" procedures of treatment. The rest of the respondents said that they use treatment procedures that include relaxation and

breathing operation, and even psychological procedures, but all of the suggested procedures refer to “orthophonie”.

Question 4: Does the results of treatment show that this approach is effective?

Choice	Repetition	Percentage
Yes	**11**	**100%**
No	**0**	**0%**
Total	**11**	**100%**

Table 3

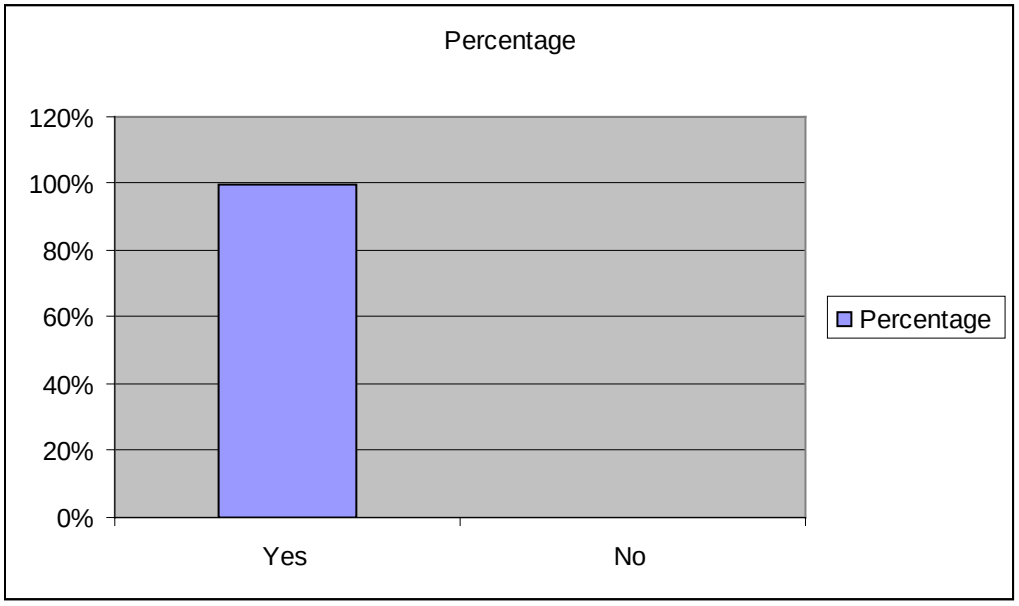

Figure3

All of the specialists in that institution agree that the used approach is effective. We have mentioned in the theoretical part how this approach and similar approaches work. However this doesn’t necessarily mean that this approach is successful in a way that removes stuttering permanently, but rather it helps reducing and controlling stuttering.

Question 5: What do you think is the most effective approach to treating stuttering?

Choice	Repetition	Percentage
Psychological	**2**	**13.33%**
Physiological	**6**	**40%**
Both	**7**	**46.66%**
Total	**15**	**100%**

Table 4

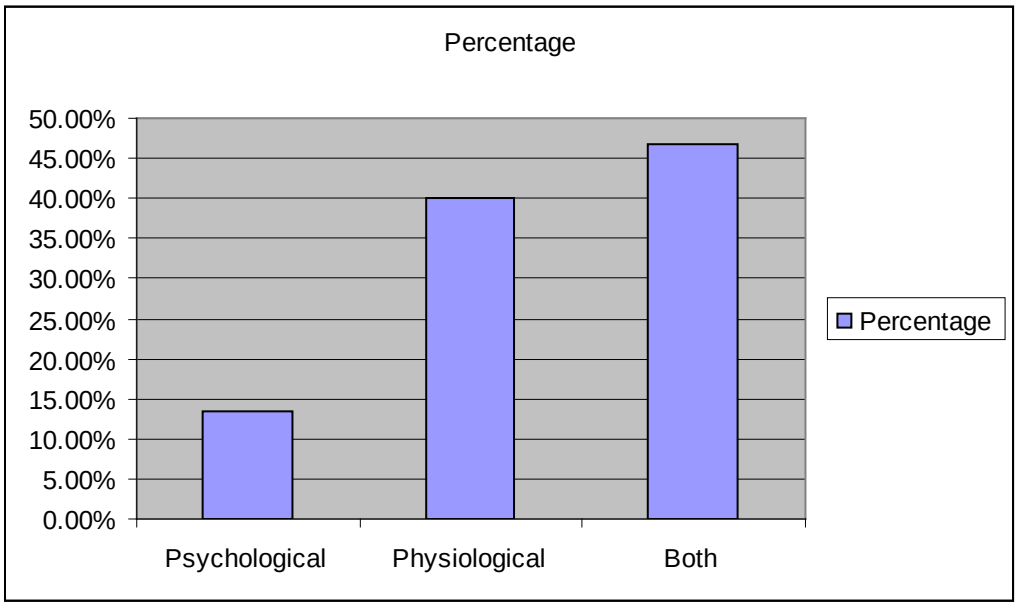

Figure 4

We note that 46.66% is the highest percentage of the integration between the psychological and the physiological approaches to produce the most effective approach. The physiological approach forms 40% of the total answers, and lastly, 13.33% is the percentage provided for the psychological approach as the most effective one.

Such percentages denote that specialists in the institution believe that stuttering can be cured through physiological exercises, which corresponds with the nature of stuttering that is treated in that institution. In other words, the stuttering of some of the internal patients is caused by mental disabilities this is why the majority of the respondents opted for the physiological and\or the combination of both choices considering the fact that the combination of both choice includes the psychological aspect; hence, the greatest number of the respondents think that the psychological aspect is also important to treatment along with the physiological one.

Question 6: Why do you think that this approach is the most effective one?

The specialists who answered that stuttering should be treated by applying both psychological and physiological methods of treatment argued that the psychological procedures will improve the psychological aspect of the patient, and the physiological

procedures will target the physiological malfunctions of the speech system. The rest of the respondents confirmed that the physiological approach is the most suitable one because it helps the patient to utter the words correctly by conditioning the speech system.

Question 7: Do you think that self therapy could be helpful?

Choice	Repetition	Percentage
Yes	**8**	**80%**
No	**2**	**20%**
Sum	**10**	**100%**

Table 5

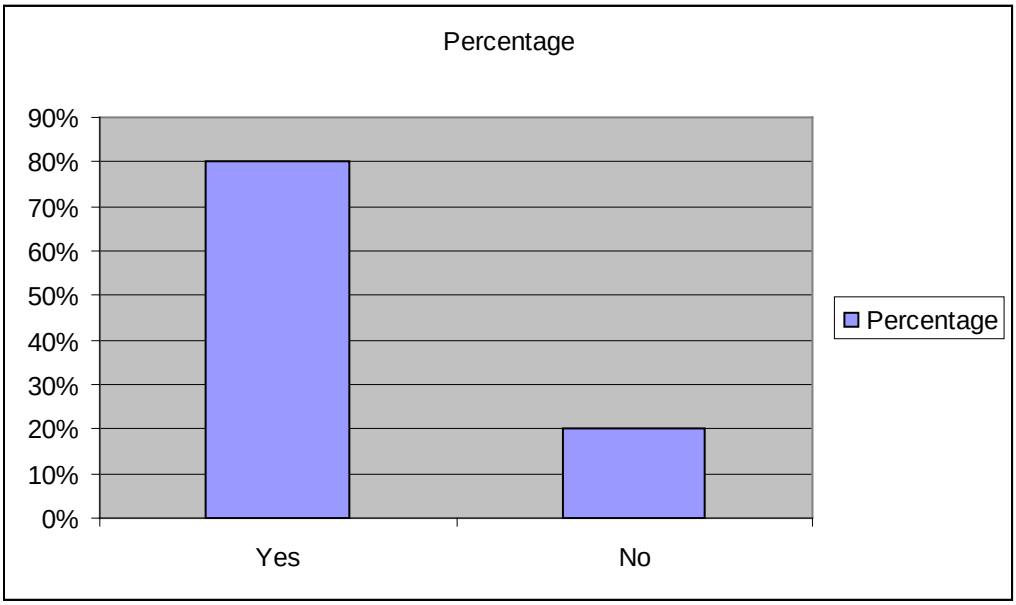

Figure 5

Most of the answers (80%) indicate that self therapy could be helpful, but only 20% of the answers show that it couldn't be helpful. Those who said 'yes' asserted that treatment starts from within the patient himself by regaining confidence through his endeavors and efforts of speaking, relaxing the speech mechanism, specifically areas where there is stress and tension, and by willing to applying and adopting the psychological and physiological procedures and instructions of speech therapy. On the other hand, those who said 'no' gave priority to the importance of being with a speech pathologist as a prerequisite to achieving treatment because exploiting therapy procedures

requires knowledge of the stuttering phenomenon, the program of therapy, and its application.

Apart from the statistical results that encourage self-therapy, one could gain knowledge and be completely acquainted with a subject that affects him/her personally ,especially if it is of crucial importance to him/ her like stuttering. Furthermore, self-therapy can be more useful if the specialists do not use the latest therapeutical approaches and means, or if the speech pathologist is not available at all. On the other hand, consulting speech pathologists and gaining knowledge about stuttering from them can always be useful.

Question 8: Do you know any useful self-therapy procedures?

The respondents suggested several self therapy procedures which focused on refining the speech system through relaxation, practicing sports, as well as different physical therapeutical procedures. Other specialists focused on the importance of maintaining confidence for those who stutter; in addition, they suggested a way to restore confidence which is to speak to oneself in front of a mirror. We can deduce that speaking alone in front of a mirror can be of great help in restoring one's confidence as it shows and convinces them that they can speak fluently like all people.

Question 9: why do you think that this self-therapy procedure is useful?

Whether the suggested approach relies on physiological or psychological procedures, the respondents declared that it maintains self-confidence. They answered that individuals have psychological abilities (emotional intelligence) that enable them attain goals of therapy including willpower. Moreover, they mentioned that such approaches of therapy have psychological advantages like restoring self-confidence that empowers people who stutter to face an audience with less stress and anxiety. Finally, some of the suggested methods aim at correcting the speech mechanism, and enable the patient to acquire new habits of fluent speech.

Question 10: Do you think that stuttering impedes the process of learning a language in educational settings?

Choice	Repetition	Percentage
Yes	9	81.81%
No	2	18.18%
Sum	11	100%

Table 6

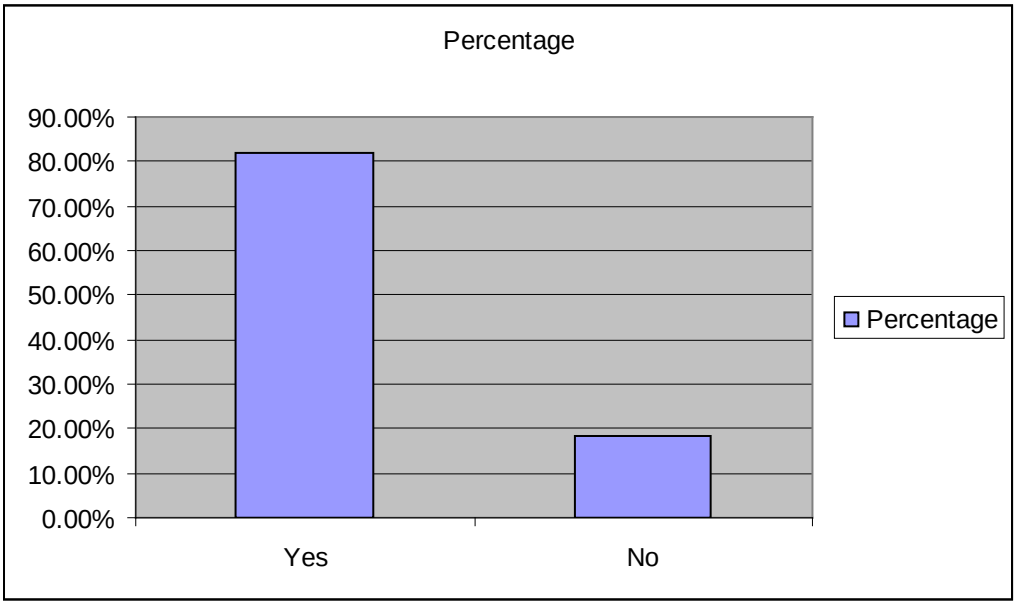

Figure 6

The results show that 81.81% of the answers correspond to the fact that stuttering impedes learning languages in educational settings, whereas 18.18% of the answers claim that it doesn't. Those who said yes confirms that the secondary behaviors associated with stuttering contribute to hurdling the process of learning due to the psychological traumatic events that face learners who stutter when they try to participate in oral expression classes for example. For this reason, such learners avoid participation in class as much as they can trying to avoid fear of speaking and embarrassing situations. By doing so, they are most likely to hinder the proper acquisition of the speaking skill of the target language since it is of crucial importance to speak the target language in order to acquire it.

The respondents add that the speech of learners who stutter could be hardly understandable mainly because of stuttering and using avoidance strategies like switching words. Therefore, to help learners who stutter, the hearer, whether it is the teacher or classmates, should offer complete attention and co-operate with them.

Question 11: What is your advice to a learner who has a stutter?

Most of the advice provided by the specialists target the confidence of the stutterer. They suggest that people who stutter should trust their abilities. With the help of theraputical approaches, people who stutter can overcome their stuttering, or at least reduce it and remove the fear that is associated with it. A considerable number of specialists highlight the importance of altering the speech system of the stutterer through relaxation and other similar procedures. Therefore, they advice learners to consult speech pathologists, and commit themselves to the treatment methods. To be more practical they advice learners who stutter to practice on theraputical techniques of breathing and relaxation. For example, practicing on the specific letters (sounds) that learners find difficult when pronouncing them until they master their articulation perfectly and unconsciously.

2.2 The observation:

In addition to the questionnaire, we have carried out an observation of a speech therapy session, in the psychological center where we delivered the questionnaire to the specialists, as a tool of data collection. The observation that we did has helped us see in action a similar method of therapy to what we have seen in the theoretical part. We have observed that speech pathologists in that institution consider stuttering as a problem of the respiratory system.

We discussed the subject of stuttering with the speech pathologist in that institution. She told us that stuttering is only a problem of respiration, that is the process of breathing is not working properly. Therefore, the approach adopted by the speech pathologist considers stuttering a physiological problem. However, as an explanation to stuttering, when we referred to the archives that are recorded about all of the patients, the speech pathologist showed us that all of the patients she has treated, whether they are internal or external, have experienced some kind of psychological traumatic events in childhood, which most of them were the result of family issues. Those traumatic events are believed to be the reason for the acquisition of the stuttering behavior to those children.

Unlike the previously mentioned approaches of therapy in the theoretical part, the approach adopted by the speech pathologists in the center of therapy uses a physiological

way of treatment, but as an explanation to the cause of stuttering, they adopt a psychological explanation (childhood traumatic events). However, in the theoretical part, the approaches of therapy that regard the cause of stuttering as physiological disorder like (The Valsalva Mechanism theory and the Orton and Travis theory) used both the physiological and psychological ways of treatment. For example, The Valsalva Mechanism suggests a way to correct the respiratory system through abdominal breathing, along with changing the form psychological aspect of the stutterer in the Valsalva-stuttering cycle.

The reason behind comparing the approaches mentioned in the theoretical part and approach used by the specialist in the center of therapy is to show that the latter lacks incorporating and considering the psychological aspect of treatment in therapy. Because, even the approaches that assert that stuttering is caused by solely the physiological aspect consider the psychological aspect in treatment along with the physiological one. For this reason, the approach of treatment used in the center of therapy should not lack the psychological aspect to make it more effective. The latter should be incorporated in the treatment process even when dealing with mentally retarded patients as assessing the psychological life of the patient is of crucial significance to recovery.

2.2.1. The adopted procedure of therapy:

As we have mentioned earlier, the speech pathologist of that institution relies on improving the respiratory system of the patient believing that people who stutter have problems with their breathing mechanism. In other words, they can’t produce enough air to articulate words.

To examine and strengthen the respiratory system of the patient, firstly the specialist asks the patient to take a deep breath and blow a piece of cotton, and then to blow out the candles. After that, she asks the patient to lie in bed to perform a breathing exercise called “ the process of relaxation and breathing”. At this position the specialist asks the patient to take a deep breath while she is counting to two. Then, the patient is asked to keep the air in his lungs as long as she counts from one to eight. Next, he is asked to exhale that air while she counts from one to four. When the specialist reaches four, the patient is expected to finish exhaling. During these exercises, the specialist squeezes the hand,

shoulder, neck, foot, and then the other hand, shoulder, foot of the patient respectively. This exercise helps the patient control his breathing system.

Another used exercise was to ask the patient to take a deep breath and keep the air in the lungs as long as the specialist counts to ten, fifteen, and lastly to twenty. Each time the specialist adds five counts corresponding to the patient's capacity of holding breath; however, if the patient is unable to hold his breath, the specialist adds only tow counts each time.

The last operation is to ask the patient to move his head down and breathe, then to move it up and breathe. After that, she asks him to turn right and breathe, and then to turn left and breathe. This exercise helps the patient to breathe with pressure on the chest cavity, so that the lungs will be more relaxed in normal breathing or speaking situations.

Such exercises might help refining and altering the speech mechanism to be able to produce natural speech through the acquisition of correct habits that are maintained by repetition and conditioning. In addition, all of the afore mentioned exercises can be practiced without the help of the speech pathologist. Actually, the role of the specialist is to show the patient the right way they are performed, and then the patient has to practice them everyday at home as much as he or she can. The specialist told me that she has witnessed improvements among the patients, especially one person that was completely healed from stuttering. He stuttered when he was almost five years old because of a psychological traumatic event like the rest of patients, and when he was 12-15 years old he has completely recovered from stuttering.

As we have mentioned earlier, the specialist told me that all of the patients have faced some psychological traumatic events that are strongly believed to be the cause of their stuttering. However, the adopted procedure of therapy in that institution is to solely apply the physiological procedures of treatment. We believe that psychological therapy of past traumatic events can provide major contribution to recovery process. Anyhow, what we have noticed in the center of therapy that all of the patients experienced traumatic events that lead to the birth of the stuttering behavior, this situation confirms what we have hypothesized that stuttering is likely to be caused by psychological more than physiological reasons.

Conclusion:

Finally, in the case of learners of a foreign language, stuttering may represent a serious problem because it hinders the process of learning one of the most important language skills which is the speaking skill. Therefore, one should practice the previously mentioned exercises as much as one can along with the psychological/physiological procedures that we have mentioned in the theoretical part. The objective is to regain confidence that empowers the learners who stutter to reach positive speaking experiences, which will generate more confidence. To restore confidence, the specialist suggested to me to video-record myself talking in front of a mirror, and to record myself talking to friends; then to compare the two recordings. She thinks that the point behind that is to try to convince myself that I can speak as fluently as when I practice talking to myself before a mirror.

Recommendations:

As a second language learner who stutters, stuttering can become a very serious problem since learning a language greatly requires the acquisition of the speaking skill. But in the case of a learner who stutters, it is most likely that he/she won't be able to acquire the speaking skill efficiently because of stuttering. Learners who have a stutter find it quite difficult to participate in class and use the language, especially in oral expression classes; in addition, only a few learners use the language outside the classroom according to what we have experienced in our studies. As a result, such learners won't be able to develop a natural acquisition of the target language, and they may find some difficulties in practicing the language and eventually using it as a means of communication. Therefore, according to our personal experience and the outcomes of our research, we suggest some humble recommendations that might primarily help learners who stutter, secondarily those who find it anxious and uncomfortable to participate in class, and finally anyone who stutters.

1- First of all, we need to understand what is stuttering and how it functions. Second, we should have insights into the speech system. Understanding the nature and function of our problem plays an important role to recovery. The answers to these questions are to a great extent mentioned in the theoretical part.

2- Self-confidence is so crucial to recovery. The most important thing that helps us restore self-confidence is to have as much speaking experiences as we can, especially doing presentations and other important speaking events in our life. During these presentations it doesn't matter when we stutter because we should change our view about stuttering, and this happens when we understand and learn more about it, which will also consolidate our self-confidence.

3- Some methods that I have talked about in the theoretical part like "how to conquer your fears of speaking before others" by Harrison and Rational Emotive therapy aim at restoring self- confidence, removing negative feelings that accompany stuttering and changing the irrational beliefs that we might have about stuttering.

4- Practicing on the breathing system is also very helpful as it enables us to condition the way of breathing until we acquire the right way of using the speaking system flawlessly

and unconsciously. The Valsalva mechanism theory will help us control the speaking system. In addition, the exercises of breathing and relaxation that we have recorded when we went to the center and did our observation are also very helpful; however, one should keep up practicing these methods as long as one can to achieve progress.

5- Anticipation of stuttering is the second hardest thing before stuttering, and it seems to be unavoidable, but neuro-linguistic programming techniques can be useful in removing the anticipation of difficulty. One can find interesting information about them in the theoretical part, or one can directly consult the book Redefining Stuttering. We find out the story of the speech pathologist (Tim Mackesey) who recovered from stuttering through using such neuro-linguistic techniques.

6- Finally, we need to speak the language. Actually, we must speak the language we are learning in order to maintain its proper acquisition. After all, as we have learned in the course of applied linguistics, to learn a language you need to communicate with it (use it or lose it). Besides, we should use the language, as long as we still have the full opportunity to use it regularly before we finish college. Ergo, whether you are a learner who has a stutter or not, you can try performing an oral expression class presentation while you are applying the techniques of “how you conquer your fears of speaking before others”. This will be very effective and helpful in maintaining confidence and recovery.

General Conclusion:

Despite the fact that we live in the most developed age as far as science and medicine are concerned, the stuttering phenomenon is still a controversial issue. Some scientists believe that stuttering is explained better if we consider the physiological aspect of the human being. Others assert that it is only a matter of the psychology of the individual since anticipation of stuttering definitely leads to stuttering itself. In our study, we have presented important theories of both psychological and physiological supporters believing that both views are crucial to the treatment of stuttering.

Treating the psychological aspect will help acquainting the patient with the nature of his problem, restoring his/her confidence, and removing the anticipatory anxiety. These procedures are so critical to recovery. On the other hand, the physiological aspect of treatment will focus on eradicating secondary behaviors that are associated with stuttering, as well as conditioning the patient's speech system to produce words correctly, which is also of great influence on treatment.

We have talked about the nature and treatment of stuttering to hopefully provide second language learners who have a stutter with useful information about stuttering and with some effective treatment procedures. Even learners who find it difficult to participate in class because of anxiety and shyness can benefit from some recommendations and procedures that we have suggested in this study. We recommend that learners who stutter adhere to such treatment procedures. Hence, they ought to move out of their comfort zone to practice on some of the procedures as the techniques of "how to conquer your fears of speaking before others" because learning a language depends on using that language and recovery is worth trying that.

The issue of stuttering is closely connected to language learning and learning in general because there are plenty of stories of people who stutter that show that one of the reasons of acquiring and maintaining the stuttering behavior is being in a certain critical situation at school as children or teenagers. Such situations are caused by a teacher criticizing and being extremely authoritative and/or classmates laughing and mocking when a child or a teenager stutters or makes a mistake, especially if this child is genetically sensitive and emotional.

To conclude, one could investigate in future research these important issues of stuttering and learning that concern either learners of a foreign language who already have a stutter, or children who are likely to have a stutter in educational settings. Lastly, one may undertake research in the role played by some teachers and classmates in maintaining the stuttering behavior of children.

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Abstract

This study aims at providing learners of a second language who have a stutter with some helpful procedures and approaches of therapy. First, hypothesizing that it is likely to be a psychological more than a physiological phenomenon, we have gathered information from different sources on the nature of stuttering. Second, we have presented important psychological and physiological approaches of therapy believing that both approaches are crucial to treatment. In addition, we have studied some of the treatment procedures that may help learners who stutter to do presentations and interact more easily with the teacher and classmates. Third, our field of investigation involves analysis of a questionnaire and data gathered from an observation of an actual speech therapy session. Both tools of data collection have contributed to providing significant information on the nature of stuttering and self- therapy. As far as second language learners who stutter are concerned, we have discussed the importance of focusing on the speaking skill and using the language as much as possible. Finally, some interacting recommendations have been suggested to lessen or even solve the problem of stuttering that affects some second language learners at university level.