# CHAPTER II
# LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter is divided into three parts. The first part is the theoretical background. It deals with the description about the literatures in this research, i.e. psycholinguistics, language production, language and brain, speech disorder, stuttering, and *Rocket Science*. The second part is the previous research. It describes a previous research having a similar topic and inspiring this research. The third part is the conceptual framework. It shows the concepts which are referred in conducting this study and draws how this research is conducted.

## A. Theoretical Background

## 1. Psycholinguistics

Aitchinson (2003: 12) states that psycholinguistics is a branch of study which combines the disciplines of psychology and linguistics. It is concerned with the relationship between the human mind and the language as it examines the processes that occur in brain while producing and perceiving both written and spoken discourse. How people process this phenomenon in their brain is not only merely about the description of producing and perceiving language but also about the description of what they have learned as background knowledge to interpret.

According to Hartmann (1973: 189), psycholinguistics refers to the efforts of both linguists and psychologists to explain whether certain hypotheses about language acquisition and language competence as proposed by contemporary linguistic theories have a real basis in terms of: perception, memory, intelligence,

and motivation. In addition, Hatch (1983: 1) defines psycholinguistics as the study of human language, language, language comprehension, language production, and language acquisition. This idea can be represented by means of Tony Buzan's main concepts as shown in his radiant thinking scheme:
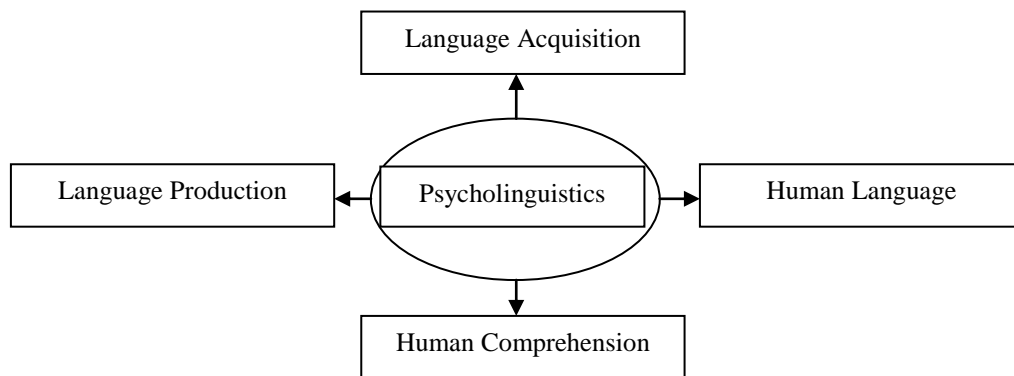


*Figure 1: Radiant Thinking Scheme (Buzan, 1993: 59)*

Furthermore, Buzan (1993: 59) states that the mind map on the top is an expression of radiant thinking and it is therefore, a natural function of the human mind. It is a powerful graphic technique which provides a universal key to unlocking the potential of the brain. The mind map can be applied to every aspect of life where improved learning and clearer thinking will enhance human performance. The mind map has four essential characteristics; they are human language, language production, language acquisition, and language comprehension. At last, the subject of attention is crystallized in a central image which is defined as psycholinguistics.

**2. Language Production**

In everyday life, people need to communicate with others through language. In other words, language is the most important element that enables communication to occur in the society. Itqiana (2006: 4) says that language is a code that one learns to use in order to communicate ideas and express any wants and needs. At the beginning language was born as an action form which is used to bear the strong feeling unconsciously, and then this feeling is handled by the brain and then performed as a language.

Taylor (1990: 363) explains that the processes of language can be selectively impaired in brain damage. When language is impaired, linguistic items acquired early in childhood tend to be preserved better than those acquired late. Chomsky states that language learning is not something that the child does: it is something that happens to the child placed in the appropriate environment, much as the child's body grows and matures in a predetermined way when provided with appropriate nutrition and environmental stimuli.

**3. Language and Brain**

According to Mukalel (2003: 110), human brain is divided into some parts. From the top of the spine upwards, are the *medulla oblongata*, the *pons varolii*, the *cerebellum*, and the *cerebral cortex (cerebrum)*. The author surface of the cerebrum is the *cerebral cortex*. As Steinberg (1993: 175) writes that the first three parts are concerned with essentially physical functions, including breathing, hard beat, transmission, and coordination movement, attraction, etc. Meanwhile,

and the latter is most heavily involved in language, another cognitive function. It is the cerebral cortex which has the central role in many functions including memory, attention, perceptual awareness, thought, language and consciousness (Taylor, 1990: 363). Those interiors parts of the brain are displayed in the following figure.
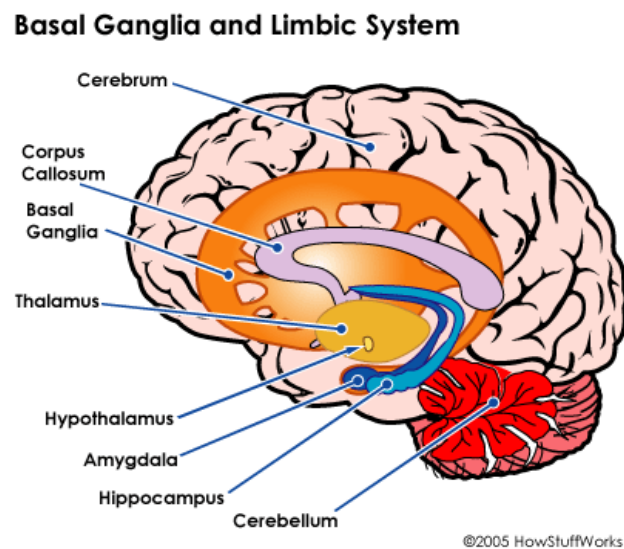


*Figure 2: Interior of the Brain*

Taylor (1990: 364) explains further that the cerebral cortex consists of two areas usually called as the left hemisphere (LH) and right hemisphere (RH). LH is functioned to process information sequentially and analytically whereas RH does it holistically. Both hemispheres control parts of the body in reserve. LH controls the right part of human body and vice versa. Steinberg (1993: 179) describes that language, logical, and analytical operations, and higher mathematics generally occur in LH and RH is recognizing emotions, faces, and taking in the structures of things globally without analysis.

Both LH and RH are each divided into four lobes. Every lobe contains areas with specific functions. They are the hindbrain (occipital lobe), the midbrain (temporal lobe), the forebrain (frontal lobe), and the cerebrum (parietal lobe). Two of them, the frontal and the temporal lobes, are involved much in speech production. The frontal lobe consists of areas to control movements and a language area called Broca's area which is thought to store and program speech production. It organizes the articulatory patterns of language and directs the motor cortex when a speaker wants to talk. The temporal lobe consists of the primary auditory cortex involved in hearing and a language area called Wernicke's area which is to store and interpret auditory speech (Taylor, 1990: 264). Figure 3 presents those parts of the brain.
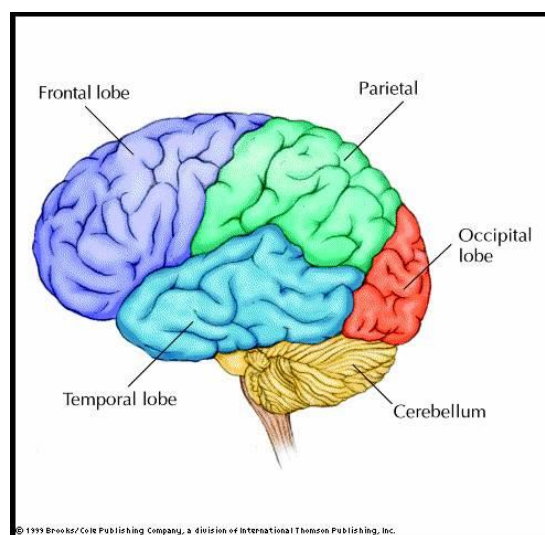


*Figure 3: The Cerebral Cortex*

## 4. Speech Disorder

Speech disorders affect the way a person talks. A person with a speech disorder usually knows exactly what he or she wants to say and what is

appropriate for the situation, but he/she has trouble producing the sounds to communicate it effectively. Speech disorders include a variety of conditions that affect children and adults. They can range from trouble pronouncing a specific letter or sound to the inability to produce any understandable speech. Some are the results of a physical deformity. Others are the results of damage to the speech mechanism (larynx, lips, teeth, tongue, and palate) caused by injury or diseases, such as cancer (Lanier, 2010: 9). Often, however, the cause of a speech disorder is not known. Lanier (2010: 10) states that there are three categorizations of speech disorders; they are fluency disorders, articulation disorders, and voice disorders.

Fluency disorders are related to the smoothness or rhythm of speech (Lanier, 2010: 10). A person with a fluency disorder may hesitate, repeat words, or prolong certain sounds, syllables, words, or phrases. Fluency disorders are especially common among young children. The second type of speech disorder is articulation disorder. Articulation disorder is achieved through the use of the lips, tongue, teeth, and palate (Lanier, 2010: 12). In some cases, it affects one or more of these body parts and leads to an inability to pronounce words correctly. For example, a child who loses his or her front teeth may develop a lisp. In this case the disorder is only temporary, but in the case of oral cancer patients who have had a part of their jaw removed, the challenges of articulating words are much more pronounced and more difficult to overcome.

A third type of speech disorder is voice disorder. A person with a voice disorder has a problem producing the sounds of speech (Lanier, 2010: 14). It is also can be defined as a problem involving an abnormal pitch, loudness or quality

of the sound produced by the larynx, more commonly known as the voice box. Almost every disorder may present in more than one symptom and one cannot associate one single symptom with one specific voice disorder.

Speech disorders can be developmental (i.e. present from early childhood) or they can be acquired as the results of a surgery, stroke, an accident or old age. In certain cases, this had a marked effect upon them ability to communicate in speech or in writing (Lanier, 2010: 53).

There are several kinds of speech disorders such as dysarthia, cerebral palsy, lisps, apraxia, and stuttering. Here is the explanation of those kinds of speech disorders. Stuttering is discussed in a more detail explanation since it is the main focus of this study.

**a. Dysarthria**

According to Lanier (2010: 27), dysarthria is a group of neurologically related speech disorders. Known as motor speech disorders, dysarthrias are caused by lesions on the brain in areas responsible for planning, executing, and controlling the movements necessary for speech. This damage can cause speech muscles to become weak or paralyzed. Dysarthria is most common in people born with cerebral palsy (CP) or muscular dystrophy and adults who have experienced a stroke, tumor, or degenerative disease such as Parkinson's disease.

People with dysarthria may experience speech issues ranging from only a slight hoarseness to an inability to speak at all. Speech affected by dysarthria is slow, slurred, and difficult to understand due to errors in the articulation of consonants. Unlike some other speech disorders, these errors are usually

consistent and predictable. Other indications of dysarthria may include a voice that sounds as though the speaker is talking through his or her nose (due to the inability to control air flow), hoarseness, or a rapid rate of speech with a "mumbling" quality. However, the severity of the symptoms depends on the location and amount of damage to the nervous system. In extreme cases speech may not be possible, and the use of an alternative means of communication may be necessary.

**b. Cerebral Palsy**

Cerebral Palsy is usually the result of brain injury or damage occurring before, during, or just after birth (Lanier, 2010: 38). It affects both boys and girls of all ethnic groups. Individuals with Cerebral Palsy have trouble controlling movement and maintaining balance. About two-thirds of people with cerebral palsy have impaired speech or language due to dysarthria. The type of speech problem depends largely on the type and extent of the brain injury.

**c. Lisps**

Lanier (2010: 24) defines lisp as an articulation disorder in which a person mispronounces the letters "s" and "z." A person may say "yeth" for "yes" or "that" for "sat." Sometimes a lisp is barely noticeable. In extreme cases, a person's tongue may actually protrude from the mouth during the formation of certain letters, producing a soft "th" sound. Although a lisp due to lost teeth is only temporary, one that is carried over into school and adult years can be a source of embarrassment and teasing. Fortunately, lisps can usually be corrected. In the absence of a physical cause, many people with lisps can often correct the

problem on their own, but it usually takes months of retraining. Careful thought must be given to each sentence before it is spoken. When this does not work, speech therapy is another option.

Although lisping is a speech error, many adults choose to live with it. Successful adults with mild to moderate lisps can be found working in the field of communications and many other high-profile professions (Lanier, 2010: 27). Over the years, American pop culture has embraced characters and personalities such as Warner Brothers' Sylvester the cartoon cat, Cindy Brady of the 1970s-era sitcom *The Brady Bunch*, and news interviewer Barbara Walters—all with lisps.

**d. Apraxia**

Apraxia is caused by motor speech disorder which results from the brain damage in the related area. This is usually in the form of disorders in articulation, fluency, voice disorder, even the combinations (Lanier, 2010: 30). In fact, there are two kinds of apraxia: developmental apraxia of speech (DAS) and acquired apraxia. The first one, DAS, usually occurs in children since they are born. Lanier (2010: 31) states that the characteristics of babies who have it are: they become quiet babies, they do not babble as infants, and the first words are usually delayed compared to the normal time. However, when they grow up, they do not have problems with listening and understanding others' speech.

Meanwhile, the second one, acquired apraxia, is usually found in adults and is because of the impairment of their ability to speak. This inability is resulted from illnesses like a stroke, head injury, or tumor. The characteristic is that people who suffer from it have difficulty in constructing their speech in the correct

arrangement when expressing what they think. In addition, they are aware of their speech errors so that they always struggle to correct it although it becomes time-consuming.

**e.    Stuttering**

Sleeper (2007: 69) states that stuttering is also called stammering. This is a speech disorder which disturbs fluency by repetitions and prolongations in syllables, sounds, and words. A person who suffers from stuttering has difficulty in starting words because of disruption in respiration, vocalization, and articulation which involves the throat, palate, tongue, lips, and teeth. Furthermore, Sleeper (2007: 70) explains that stuttering occurs when there are disruptions in the way that the brain coordinates with the various components which is necessary for speech production. An individual who suffers from this disorder feel a strain in speaking. Thus, sufferers may avoid some words that are regarded difficult to be pronounced.

Further, Sleeper (2007: 71) defines that stuttering is a disorder in the rhythm of speech in which the individual knows precisely what he or she wishes to say, but at the same time may have difficulty saying it because of an involuntary repetition, prolongation, or cessation of sound. Stuttering may be divided into developmental dysfluencies, (which many children experience) and pathologic dysfluencies. Stutterers can display both repetitions and prolongations (primary symptoms), as well as avoidance and frustration (secondary symptoms). The primary symptoms of stuttering can be difficult to differentiate from those of

normal developmental dysfluency. The secondary symptoms are often a response to the negative feedback a child receives from family and friends.

Dealing with stuttering, there are three problems that emerge. The first problem is related to the types of dysfluencies of a stuttering person, the second is related to the types of associated behaviors of a stuttering person, and the last problem is the kinds of treatments that are used to recover a person from stuttering. Given here is explanation of theories related to the three problems.

**1) The Types of Dysfluencies**

Patricia M. Zebrowski (in Pediatric Annuals, 2003: 455) classifies all speech dysfluencies into two categories; *Between-Word* and *Within-Word Dysfluencies*. Patricia also states that numerous studies have shown that both children and adults who stutter produce all types of dysfluencies, both *Between-Word* and *Within-Word*, as do those who do not stutter. Patricia categorizes *Betweeen-Word Dysfluencies* into three subtypes; they are *Interjections*, *Phrase Repetitions,* and *Revisions*. Then in *Within-Word Dysfluencies*, she also categorizes *Between-Word Dysfluencies* into three subtypes; they are *Repetitions of Individual Sounds or Syllables, Prolongations of Sounds, and Blocks (Silent Pause)*. Moreover, Conture (1982: 45) also devised a system that categorized stuttering movements into the two broad subclasses of *Within-Word* and *Between-Word Dysfluencies*. In *Between-Word Dysfluencies*, Conture classified one of the *Between-Word Dysfluencies* category which is not stated by Patricia, i.e. *Multisyllabic Whole-Word Repetition*. Then in *Within-Word Dysfluencies*, he also

classified one of the *Within-Word Dysfluencies* category which is not stated by Patricia, i.e. *Monosyllabic Whole-Word Repetition*.

**a) Between Word Dysfluencies**

*Between-Word Dysfluencies* is the disruption which is produced while a stuttering person attempts to link words together, they consist of four subtypes of speech dysfluencies:

**i) Interjections**

Garman (1990: 167) describes this concept by the term constructional switches which are frequently observed in constructional mazes, which end in some reformulation. Interjections, almost like pauses, indicate that speakers have had to stop to think about what to say next. People usually select particular *Interjection* signals when they have to stop like *uh, oh, ah well,* and *um*. Those *Interjection* signals can show the reason why the speaker stops, for example due to a referent selection, memory success, word approximation, or exemplification (James in Clark and Clark, 1977: 268). One example is shown below

*"Who, **uh (interjects the sound uh)** who is that? Beats me."*

**ii) Phrase Repetitions**

Repetitions of more than one word or of one word and part of a second word, were classified as *Phrase Repetitions*, provided no modification or revision of the content resulted from the repetition. One of example is shown below

*"I want to borrow this book – **this book (repeats the phrase this book)** today."*

**iii) Revisions**

People sometimes revise what they have just said. They may stop in the middle of sentence and begin again in a new direction. Changes in the content or grammatical form of phrase, or in the pronunciation of a word, were counted as instances of *Revision*. One of example is shown below

> *"She is going to – **I think she left." (revises the words she is going to into I think she left)***

**iv)  Multisyllabic Whole-Word Repetition**

It is defined as the repetition of a word that contains more than one syllable. One of example is shown below

> "She is really-***really (repeats the Multisyllabic Whole-Word Repetition really) here."***

**b)  Within-Words Dysfluencies**

While *Within-Words Dysfluencies* involve a disruption in the smooth connection of sounds or syllables within a word, they consist of four types of speech dysfluencies.

**i)   Repetitions of Individual Sounds or Syllables**

*Repetitions of individual Sound* is the repetition of individual sounds of language. This does not refer to individual letters, since sometimes a combination of letters makes only one sound. The example is shown below

> *"W-**w (repeats the individual sound**) where is she going?"*

Furthermore, *The Repetitions of Individual Syllables* is the repetition of a part of a word that contains a vowel or vowel sound. The example is shown below

> *"Good mor-**mor (repeats the individual syllable**)ning guys!"*

### ii) Prolongations of Sounds

This category included any unduly prolonged sound. If a sound was prolonged twice it was counted both as a prolonged sound and as a repetition of sound. The example is shown below

*"**Wwwwww (prolongs the sound w)** here is she going?"*

### iii) Blocks (Silent Pauses)

Clark and Clark (1997: 263) do not give broader explanation about this kind of dysfluency. Garman (1990: 375) says that *Blocks* or *Silent Pause* may also be called as unfilled hesitation. A speaker who has unfilled hesitation will do pause in his speech a moment to produce the next word he wants to say. The example is shown below

*"Where is she... **(silent pause)** going"*

### iv) Monosyllabic Whole-Word Repetition

*Monosyllabic Whole-Word Repetition* is the repetition of a word which consists of a single syllable. The example is shown below:

*He-**he (repeats the monosyllabic whole-word repetition he)** is here.*

### 2) The Types of Associated Behaviors

An additional feature of associated or secondary behaviors occurs along with the production of sound and syllable repetitions, sound prolongations, or blocks. These can emerge soon after the stuttering person begins to stutter and are thought to be related to the child's developing awareness that talking is somewhat difficult. Patricia M. Zebrowski (2003: 455) states that these behaviors can take many forms such as: *Head, Torso, and Limb Movement*, *Audible Inhalations and*

*Exhalations* (gulping, holding the breath, and nostril flaring), *Visible Muscle Tension* in the Orofacial Tension (jaw jerks), and *Eye Behaviors* (blinking, squeezing the eyes shut during moments of stuttering, side to-side movements of the eyes, and consistent loss of eye contact).

**3) The Kinds of Stuttering Treatments**

There are some treatments that can reduce stuttering. Lavid (2003: 47) states that the treatment goals of developmental stuttering are twofold: to decrease the amount of stuttering and to decrease the amount of anticipatory anxiety. Treatment of developmental stuttering follows a two-pronged approach because the severity of dysfluency and anticipatory anxiety are not directly related to each other. That is, some individuals who have the most severe forms of stuttering do not have as much anxiety as some with mild forms. In addition, since these components are not directly related, treating one does not ameliorate the other. Therefore, outlining these three treatment goals best prepares the patient to respond to treatment.

The first treatment is *Speech Therapy*. The second is *Manuevers that can Induce Fluency* which consists of nine manuevers, i.e. *Adaptation, Auditory Masking, Choral Speech, Delayed Auditory Feedback, Impersonating's Another Voice, Singing, Speaking Alone, Speaking with a Metronome,* and *Whispering.* At last, *Cognitive Behavioral Therapy* (CBT) is the last treatment of stuttering person which can be used stuttering person to overcome his or her stuttering.

a) **Speech Therapy**

According to Lavid (2003: 46), *Speech Therapy* is devoted to the treatment of speech disorders, and is usually under the guidance of a speech pathologist. Speech pathologists use many different therapeutic approaches to treat developmental stuttering. However, there are some basic tenets and tools of speech therapy, and those will be addressed. Lavid (2003: 47) also states that to treat the dysfluency aspect of developmental stuttering, the patient is taught different ways to produce sounds. Teaching fluency may seem like a futile approach to tackle a genetic, brain-based condition. It is not, however, because brain mechanisms can be manipulated, and manipulation can be taught. Manipulation is possible because the brain is a dynamic organ that can be influenced by environmental and psychological experiences.

b) **Manuevers that can induce Fluency**

Lavid (48: 2003) states that there are nine vastly different and seemingly conflicting maneuvers can temporarily induce fluency.

i) **Adaptation**

Fluency can also be induced by *Adaptation*. *Adaptation* is the noted improvement in fluency when one repeatedly reads aloud from the same text (Lavid, 2003: 49). For example, a father who reads the same book aloud each night to his children will make fewer mistakes on each successive night. This phenomenon is also observed in stuttering. When people who stutter rehearse their speech, that is, repeated narration, they stutter less and less as they repeat their

speech. Adaptation in stuttering may simply be ascribed to the efforts of practice; nonetheless, it has a place in speech therapy.

**ii) Auditory Masking**

*Auditory Masking* is a maneuver that completely prevents persons from hearing they talk (Lavid, 2003: 50). This is simply accomplished by using loud noise to mask speech. Commonly, white noise is played in a room or in a headset. White noise is an effective masking sound because it contains all the sound frequencies audible to the human ear, and its fluency-inducing properties are used in speech therapy.

**iii) Choral Speech**

Lavid (2003: 49) says that when those who stutter speak in unison with others, which is termed *Choral Speech*, they become fluent. A common example of *Choral Speech* is reciting the pledge of allegiance, and 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 it is incorporated in speech therapy.

**iv) Delayed Auditory Feedback**

The most recently discovered fluency-inducing maneuver is *Delayed Auditory Feedback*. Lavid (2003: 50) gives an example of *Delayed Auditory Feedback* that in 1950, an army engineer Bernard Lee was testing the capabilities of a new electronic tape recorder. One of the novelties of the new equipment was

the ability to listen to the recording while it was being taped. Lee tested the new tape recorder by taping his own voice. One day, he mistakenly placed the input for his headset in the wrong jack. Lee noticed his mistake when he listened to the words he was speaking, and found that he had developed a stutter.

### v) Impersonating Another's Voice

Lavid (2003: 48) gives an example of *Impersonating Another's Voice* that James Earl Jones, the voice of "This is CNN," does not stutter when he performs his famous voiceover; neither does he stutter when he acts. The reason being is that he is using his skills as an actor to impersonate a voice. However, when Jones speaks in his natural voice, he stutters occasionally. In the 1996 film, A Family Thing, he reveals his stutter.

### vi) Singing

People who stutter can sing with a complete fluency (Lavid, 2003: 48). It is postulated that *Singing* is a right brain phenomenon and incorporates other brain circuits than the ones used in speech, which is primarily mediated by areas in the left cerebral hemisphere. This may be the underlying mechanism for the fluency provided by *Singing*.

### vii) Speaking Alone

*Speaking Alone*, that is, without an audience, also improves fluency. Speaking in front of an audience exacerbates stuttering because the reactions of the audience can decrease the individual's perception of fluency (Lavid, 2003: 48). Moreover, people who stutter tend to believe they stutter more than they actually do, and this perception fuels anticipatory anxiety.

**viii) Speaking with a Metronome**

Lavid (2003: 49) defines that along the same lines, *Speaking with a Metronome* decreases stuttering. There is a cadence one follows when one speaks in unison with a metronome. If the beat is at a slow rate, fluency improves. It has been proposed that *Speaking with a Metronome* is a distraction that decreases the anticipatory anxiety associated with stuttering, and hence the anxiety-fueled exacerbations of stuttering. A metronome is commonly used in speech therapy.

**ix)  Whispering**

If someone who stutters whispers, the stutter will not to be noticeable (Lavid, 2003: 49). Whispering can be done by before speaking the stuttering person can try to whisper the first word then at the second time he/she says the word that he/she whispered in soft tone just like more loudly than whispering and third he/she tries to say the word normally.

**c)  CBT (Cognitive-Behavioural Therapy)**

Lavid (2003: 52) says that this type of therapy is effective in the treatment of many different brain-derived symptoms, and is used in the treatment of developmental stuttering to decrease anxiety as well as to teach fluency. The method shares some concepts with other forms of speech therapy, and to narrow the broad subject of speech therapy to a digestible concept, the focus here is on cognitive-behavioral therapy.

Lavid (2003: 52) also states that *Cognitive Behavioral Therapy* (CBT) is a symptom-based therapy that incorporates cognitive processes and behavioral

theory. The cognitive arm of CBT is to address the cognitive aspects, that is, the thoughts and emotions that underlie a symptom or behavior. The behavioral arm of CBT is the use of behavioral modification, that is, the promotion of specific behaviors to decrease a symptom or behavior. In CBT, these two arms are used simultaneously. The focus of CBT is to address cognitive processes that underlie a behavior or symptom while also using behavioral modification to change these processes. The end result is a decrease of the symptom or behavior.

## 5. *Rocket Science*

### a. Production of *Rocket Science*

*Rocket Science* is a 2007 American comedy-drama film written and directed by Jeffrey Blitz, and starring Reece Thompson who acts as Hal Hefner (the stuttering student), Anna Kendrick who acts as Ginny Ryerson, Nicholas D'Agosto who acts as Ben, Vincent Piazza who acts as Earl Hefner, and Aaron Yoo who acts as Heston. It tells the story of Hal Hefner, a fifteen-year-old stutterer who decides to join his school's debate team when he develops a crush on its star member, and addresses the themes of coming of age, sexuality, and finding one's voice.

Blitz conceived a rough storyline for the film while making *Spellbound*, a documentary about 1999's Scripps National Spelling Bee, but an HBO Films executive persuaded him to write the film based on his own adolescence when he told her about his experiences as a stutterer.

*Rocket Science* premiered on 19 January 2007 at the Sundance Film Festival and was theatrically released 10 August 2007. It was not a financial

success, earning only US$756,000 from its $4.5 million budget, though it was well-received by critics. Reviewers praised Thompson and Kendrick's performances and the film's parallels to real life; others believed that the film was deliberately quirky and forgettable. It was nominated for Sundance's Dramatic Grand Jury Prize and three Independent Spirit Awards, though it failed to win any.

**b.  Summary of *Rocket Science***

This film tells about the story of a stuttering student whose name is Hal Hefner who has communication disorder because of his stuttering. He suffers stuttering since he was in his childhood. His family is broken since his father left them. Hal lives with his mom and his brother. His mom falls in love with a Korean man who is the father of his friend at school. His brother is a kleptomaniac person who always has conflict with Hal. Hal's life changes because of his stuttering. He cannot communicate well with others because of his condition. Many people think Hal as a strange boy who can speak well.

Almost of the people avoid Hal because of his stuttering. It makes Hal feel depressed and choice being alone than socializing with others. Then he decides to join his school's debate team because of the motivation of his friend, Ginny who is talented in debate. By joining the debate, Hal tries to induce his fluency by using some treatments. He tries to speak well although it needs time and process. Then he meets Ben, the ex-debater who helps Hal to speak well as debater. Ben gives Hal many methods to make sure that Hal can speak well. At the end of story, Ben joins again to be debater and he joins to Hal's debate team. Hal is

successful to prove that although he is stuttering, he can join and compete himself in the debate's team as the normal people who do not suffer the stuttering.

## B. Previous Research Findings

There are many studies about stuttering in psycholinguistics field recently. One of them is the research conducted by Endang Setyowati 2011 entitled A Psycholinguistcs Analysis of Stuttering by King George VI Portrayed in *The King's Speech* film. This study is about symptoms of primary and secondary stuttering in the utterances by King George VI who is characterized as a stuttering man in *The King's Speech* film. Moreover, she also analyzed about the kinds of therapy that King George VI used to overcome his stuttering.

The next previous researcher is journal of stuttering which is written by Zebrowski in Pediatric Annuals; July 2003; 32, 7: Proquest Research Library pg. 453. Zebrowski states that researchers and clinicians in the speech and hearing sciences have a long sought to examine and differentiate the dysfluent speech produced by children and judged to be stuttering from that considered not to be stuttering or normally dysfluent. The outcome of these investigations has been the developmental of a system for classifying all speech dysfluencies into two categories; they are *Between-Word* and *Within-Word Dysfluencies*. Zebrowski also states that numerous studies have shown that both children and adults who stutter produce all types of dysfluencies, both *Between-Word* and *Within-Word*, as do those who do not stutter. Moreover, Zebrowski also states about associated behaviors of stuttering. These behaviors can take many forms, such as *Head,*

*Torso and Limb Movement*; *Audible Inhalations and Exhalations*; *Visible Muscle Tension*; and *Eye Behaviors*.

## C. Conceptual Framework

The discussion about speech production is undeniably an important topic in linguistic area. In addition, the discussion about this topic is often not separated from the discussion on speech comprehension and speech acquisition. In fact, the relation of those three processes happens in the human brain which involve language and the brain. Therefore, to be more specific, the discussion on those things is always under psycholinguistic study since this study is also about language and the brain.

In fact, for many people, the speech process in speech production is a simple thing, so that they do not have to learn so hard to be able to do it. In fact, for the people who suffer speech disorder, speech process is not as simple as they think. One example of speech disorders is stuttering. Stuttering affects the fluency of speech. It begins during childhood and, in some cases, lasts throughout life. The disorder is characterized by disruptions in the production of speech sounds, also called dysfluencies. Most people produce brief dysfluencies from time to time.

From stuttering, what is usually worth discussion is the phenomenon of types of dysfluencies and associated behaviors of stuttering as well as its therapies. Types of dysfluencies are things relating to language that stuttering people experience. In other words, it is the phenomenon of language use in people

who stutter. They are *Between-Word Dysfluencies* which consist of *Interjections, Phrase Repetitions, Revisions,* and *Multisyllabic Whole-Word Repetitions*. Then *Within-Word Dysfluencies* consist of *Repetitions of Individual Sounds and Syllables, Prolongations of Sounds, Blocks (Silent Pauses),* and *Monosyllabic Whole-Word Repetitions.*

Meanwhile, Associated Behaviors of Stuttering are accompanying behaviors that stuttering people do when they experience the types of speech dysfluencies of stuttering person. These behaviors can take many forms, such as *Head, Torso and Limb Movement; Audible Inhalations and Exhalations; Visible Muscle Tension;* and *Eye Behaviors.*

Finally, the researcher also analyzes the the kinds of treatments of stuttering. They are *Speech Therapy, Manuevers of that can Induce Fluency* consist of *Adaptation, Auditory Masking, Choral Speech, Delayed auditory feedback, Impersonating's Another Voice, Singing, Speaking Alone, Speaking with a Metronome, a*nd *Whispering.* At last the last treatment is *Cognitive Behavioral Therapy.*

In fact, the phenomenon of stuttering is portrayed very well in *Rocket Science*. The writer of this film script, Jeffrey Blitz drew from many of his own experiences as a stutterer when writing the script. For this reason, this movie is brought up as the data source of this research. Then, the researcher formulated his way of thinking for this research into a diagram as follows.
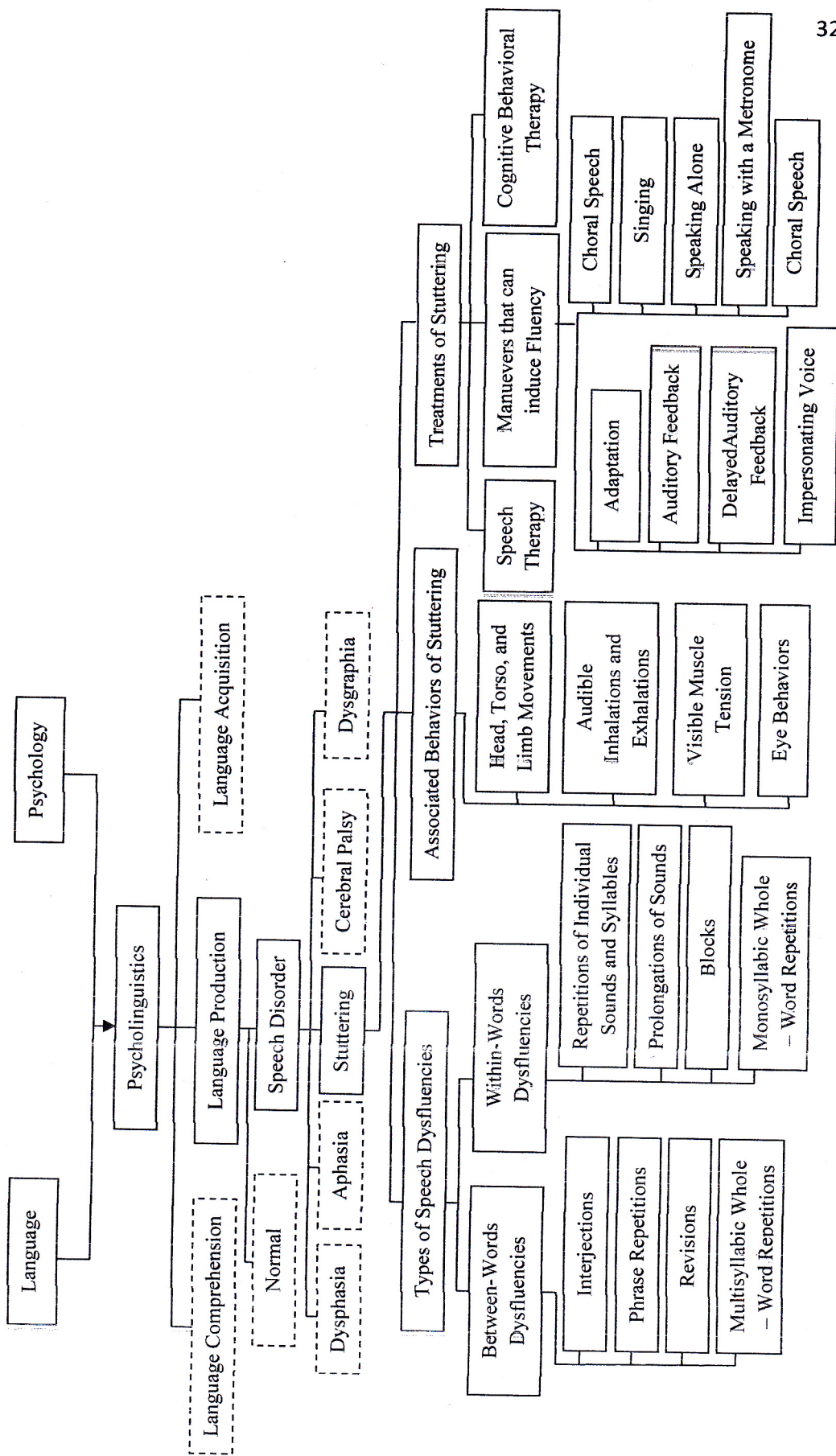
**Figure iv. Analytical Construct**