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**Language problems exhibited by patient with Aphasia and brain
dysfunction in Algerian society.**

- Psycholinguistic study -

Dissertation submitted in partial fulfilment of the requirements for a Master Degree in English
language and linguistics

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Dedication

To my family

Acknowledgement

First of all, I would like to express my sincere gratitude to my supervisor Ms. Hammadi Samia for her help and guidance.

My special thanks should be expressed to my parents, sisters and brothers for their care and help.

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Last but not least, I would also like to thank my husband for his encouragement, my friends and colleagues

Abstract

This work aims to determine the different functions of the brain. How the different parts of the brain are interconnected is essential to understand the relationship between brain and language? The objective of this study is to define the language problems exhibited due to the damage of the brain or part of brain. Aphasia is the main objective of this study which is the result of the brain injury. In this paper, we will determine also the different types of aphasia, the symptoms, diagnose and treatment of aphasic person will also have dealt with. To achieve the above objective, an interview with psychologist and student's questionnaire was opted. The questionnaire was administrated to thirty students of English in the university of Mostaganem. The interview aims at tapping into the psychologist experience and ideas. Whereas, the questionnaire aims to test the knowledge of students about Aphasia and their behavior toward aphasic persons. The analysis of data shows that the students was not aware about aphasia. Moreover, the interview was the effective method which provide the research with a relevant information and ideas. It was done with the psychologist Khouatir Houria in the clinical of Elyasmine in Oran. The findings show that the therapy of an aphasic person should include a group of therapists involves: physician, psychologist, speech-language pathologist.

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General introduction

The value of studying language as communication system is that language allows us to communicate with others who share the same language. The study of language can provide a deeper understanding of the social sciences and humanities. language is used to communicate ideas from one person to another and to make others do things. However, learning how the brain functions is essential for a complete understanding of modern psycholinguistics, to understand the relationship between the brain and language we need to know how different parts of the brain are interconnected, and how language function.

Literature review

In the past decade, there has been a growing interest in aphasia, a review of the aphasia literature was undertaken. Research in aphasia has increased since 1993 and contributed to an important database regarding phenomena associated with life with aphasia. This previous researches related to the study by supporting it with a great number of information, experiences, and methods. Moreover, represent a source of taking ideas and methods in order to reach this field.

Motivation

How effective we are as learners has a great deal to do with our ability to communicate. We convey ideas and information in a variety of ways through speaking, gestures and through written message.

In this paper, we will consider how can the brain spell in acquiring, using, producing and comprehending language. In other word, to consider the relationship between the brain and language even the damage of brain. (aphasia)

Theme

The language problems exhibited by patients with aphasia and brain dysfunction in Algerian society – psychological study-

Statement of purpose

Language is a window into the human mind. looking at how humans learn language, how they perceive and produce it. what happens to their brain when they use language,

i.e. the ways in which language affect the works of the humans learn, use and produce language and what happens if the brain damage.

The objective of research

This work aims to study the neuropsychological aspects of language, it intends to describe how human learn language, the localization of language function. then, describes the language disorders caused by the damage of brain. In addition, this paper characterizes the relationship between brain structure and language process in order to define the effectiveness of brain in learning and perceive language.

Research question

- 1- What are the main issues in psycholinguistics study?
- 2- What area of the brain are important for comprehending and producing language?
- 3- How does aphasia affect language production and comprehension?

Hypothesis

On the basis of what has been stated above, I hypothesize that the broad issues in psycholinguistics is the relationship between brain and language and how can brain affect in learning language through the damage i.e. the effectiveness of aphasia in language production and comprehension.

Methodology

This study is an attempt to define the main problems faced the patients with aphasia. The methodology of this research will be showed in three chapters, the first one is an overview of the psychology of language or psycholinguistics i.e. defined the main components of psycholinguistics such as language, brain, language process...etc. whereas the second chapter will be dealt data collection concerning:
Interview:

Face to face interview were conducted especially with a psychologist.

Questionnaire:

These were handed out by the learners to various specialties at the faculty of letter and foreign languages in the university of Mostaganem.

However, the third chapter concerning discussion of the finding based on the data collected by the interview and the questionnaire.

Conclusion

This work aim to define the functions of brain in the production and comprehension of language, as well as shows also the consequence of the brain dysfunction, then the difficulties of using language when the brain is damage. Moreover, exhibited the language problems due to the aphasia.

Chapter one

An introduction of the psychology of language

1.Introduction

1.2 Psychology of language

1.2.1 What is psycholinguistics?

1.2.2 What is language?

1.2.3 Language process

1.2.3.1 Language acquisition

1.2.3.2 Language comprehension

1.2.3.3 Language production

1.3 Language and the brain

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1.3.3 Language adaptation to humans

1.4 What is aphasia?

1.4.1 Broca's Aphasia

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1.4.3 Other forms of aphasia

1.5 Communicating with aphasia patient

1.6 Consequence of aphasia and quality of life

1.7 Conclusion

1. Introduction

Linguistics is often defined as the scientific study of the language and the way language works. It is a branch of cognitive science that is an independent branch by which the language should be studied. On this view the role of linguistics is to provide hypothesis for other disciplines to test.

This work is an attempt to show how linguistics can benefit by combining insights other disciplines. Moreover, this thesis is the study of linguistics with the reference to psychological and neurological concepts and theories in which developed on the basis of purely linguistics data.

This chapter deals with an introduction of the psychology of language, it defines the relationship between language and psychology, and the effectiveness of brain in learning and using language, to understand how language functions, relating it to the brain, its mental aspects and speech.

This chapter, focuses on the relationship between human mind and language. Then, defining the language process: acquisition, comprehension and production. the localization and adaptation of language is also dealt with. In addition, this thesis concentrates on the description of language problems which face the person after the stroke who caused a damage in the brain. Furthermore, this chapter defines the term Aphasia and its different types. The aphasic person faces many problems in using language or in comprehending it. Whereas the communication with aphasic person will be also very difficult, from this reason this chapter is dealt also with communicating with person who has aphasia, also describe some consequences of aphasia.

This theoretical part is focus on the psychological and neurobiological side in fact to precise more data about the term aphasia and psychology of language in overview.

1.2 Psychology of language

1.2.1 What is Psycholinguistics?

Psycholinguistics is the combination of psychology and linguistics. It studies the psychological and neurobiological factors that enable humans to acquire, use, comprehend and produce language. Hence, it has many branches and areas of study concerning the language processing which includes the three main activities: language acquisition, comprehension and language production. What is more, psycholinguistics is defined as: "the study of mental faculties involved in the perception, production and acquisition of language." Merriam Webster Dictionary.

Psycholinguistics is based on the cognitive processes that facilitate to generate a grammatical and meaningful sentence, far from vocabulary and grammatical structures, as well as the processes that make it possible to understand speech, words, texts, etc. psycholinguistics covers the study of infants and learning language.

In addition, the term psycholinguistics was used in 1936 by Jacob Robert Kantor in his book "An objective psychology of grammar", then it became frequent after the use in 1946 by his student Nicholas Henry Pronko in his article "language and psycholinguistics".

Psycholinguistics is concerned with the nature of the processes that the brain undergoes to comprehend and produce language. as well as, the major subfield of psycholinguistics investigates first language acquisition, the process by which children acquire language, and how they comprehend language then, produce language. And how they acquire new language acquisition. Furthermore, it is much more difficult for adults to acquire second language than it is for children.

Merriam Webster dictionary, is a reference book since 1828, listing alphabetically the words of one language and showing their meanings or translations in another language.

1.2.2 What is language?

Human language is the combination of words that makes it easy for us to communicate with others. Language is the method of human communication, either spoken or written, consisting of the use of words in a structured and conventional way.

Jack et al (1985) in Longman Dictionary of applied linguistics defined language as:

” Language is the system of human communication by means of a structured arrangement of sounds (or their written representation) to form larger units, e.g. morphemes, words, sentences.” in addition, language is a bridge which links the human with each other especially people who share the same language.

Language is not just speaking, it is also signs, symbols, and rules used by a particular country or community. Language is differs from speech. Although, speech is a spoken expression of ideas, opinions, etc. That is make by someone who is speaking in front of a group of people. In short, it is the oral production of language. Language is more abstract; it can be clearly shown or visible through signs, symbols, dactylology (finger spelling), written words ...etc. we can further define language by looking at its properties (R. Brown, 1965: Clark &Clark,1977: Hockett 1960). Language has six main properties: first, it is communicative because it allows us to communicate with others who share the same language. Second, language is arbitrary: symbolic references to things, ideas, processes and relationships. Third, language is structured: it has patterns that based on rules. Fourth, language is multilayered: it can be analyzed as speech sounds, as units of meaning, as words, as phrases or as sentences. Fifth, language is productive: it has the potential to use a small set of rules to generate a limitless number of novel sentences. Sixth, language is evolutionary: language change over time; some aspects become obsolete. Hence the value of studying language as communicative system is to understand the social sciences and humanities in the academic level, and most important because we can do things with it.

Jack et al Longman dictionary of applied linguistics.

To sum up, humans should learn the components of language in order to use it correctly, and share it with the others to make the language more comprehensive. Whereas, these components must include: phoneme, the smallest unit of sounds. Morphemes is the smallest unit of language that carries linguistics meaning.

Syntax, that refers to the way a language permits users to collect words to form phrases and sentences. Discourse also mentioned in the main components of language, it is the multi-sentence language used in conversation and dialogues.

1.2.3 Language process

Language processing is refers to the way humans use the words to communicate ideas and feelings, and how such communications are processed and understood. Thus it is how the brain creates and understands language. Most recent theories consider that this process is carried out entirely by and inside the brain.

The field of psycholinguistics study is usually limited to one of this main subdivision: language acquisition, language comprehension, and language production.

Psycholinguistics study many different topics, and these topics can generally be divided into answering the following questions: how do children acquire language? How do people process and comprehend language? How do people produce language?

The subdivision of psycholinguistics allows us to be aware about the steps that making human language.

1.2.3.1 Language acquisition

Language acquisition refers to the way children learn to speak and understand their native language (or in bilingual communities to understand two languages). The goal of language acquisition research is to understand language. Generally speaking, children learn simple grammatical forms before they learn complex forms.

There are two debates about how children acquire and learn language that represent in two theories: The first theory states that all language must learned by the child. While, the second states that the abstract system of language cannot be learned, but that humans possess an innate language faculty, or an access to what has been called “universal grammar”. The theory that language must be learned was represented by the Mentalistic theories of Jean Piaget and the Empiricist Rudolf Carnap. As well as, the school of psychology known as behaviorism puts forth the point of view that language

is a behavior shaped by conditioned response. Hence, it is learned.

The second theory which states the innatist perspective began with the linguist Noam Chomsky's.

Chomsky originally theorized that children were born with hard wired language acquisition device in their brain. the presence of universal grammar in the brains of children allows them to deduce the structure of their native language. Hence, the brain contains a genetically transmitted plan for learning grammar. Then, the primary data is used to make sentences or structures after a process of trial and errors. correspond to those in adult speech. According to Chomsky there was no evidence that children receive sufficient input to learn all the rules of their language. Yet there must be some other innate mechanism that gives a language ability to humans. Such a language faculty is, the faculty of having a language, each human being has his language faculty which exclusive by human being not animal separated from different faculty.

The field of linguistics and psycholinguistics since then has been defined by reactions to Chomsky. The goal of language acquisition research is to describe how a child becomes competent to produce and understand language.

1.2.3.2 Language comprehension

One question in the field of language comprehension is: how people understand sentences as they read? language comprehension is a complex process, refers to the processes used to understand written, spoken or signed language. The concept is influenced by the idea of understanding the meaning of what we mean i.e. if we cannot understand spoken language we will not understand what we read. Moreover, its complex processes that occur easily and effortlessly by humans, it develops along with the brain and is able to enhance with the use of gestures.

The basic process in language comprehension is vocabulary or knowledge of words meanings, and sentence comprehension. Moreover, language comprehension means the understanding what others are saying some one said to understand a verbal message when he got the meaning of the message.

Jean Piaget's theory, (1936), theory of cognitive development is a comprehensive theory about the nature and development of human intelligence.

Psycholinguistics are interested in discovering the comprehension strategies we use to derive meaning from speech and text and describing how comprehension occurs in real time.

In learning any language, the child must be able to comprehend meaning of the language before they produce it. In addition, the basis of all language is meaning, and without having had the opportunity to hear and understand words, phrases and sentences within meaningful context. Speech comprehension is the basis of the speech production, i.e. without comprehending the speech, the words, phrases...etc. the child cannot produce them. The goal of language comprehension research is to describe the importance of language comprehension either spoken (speech) or written (text) before producing this language.

1.2.3.3 Language production

“Language production refers to how a person creates speech, sign language, or text beginning with the initial idea or message and ending in the spoken, signed, or written form.” (the psychology of language: Timothy B. Djaay 2003).

Language production is the spoken or written language i.e. the actual speaking. It describes all of the stages between having a concept and translating that concept into linguistic form. In addition, language production is the creation of language based on different stages, started by selecting the right words and create a sentence in order to make the language clear to understand by receivers of the messages.

Language production concerns how people produce language, either in written or spoken form in a way that conveys meaning comprehensible to others. Observing and analyzing instances of speech errors is the most effective way to control if the meaning is comprehensible to others or not. These speech errors may include speech dysfluencies, also pronunciation errors. It produces considerable implication on language production. In that the speaker reflect that:

- 1- speech planned in advance: speech errors show that the speaker does not plan his/her speech before speaking.
- 2- lexicon is organized semantically and phonologically: substitution and pronunciation errors show that lexicon is organized not only by its meaning but also its form.
- 3- morphologically complex words are assembled: speakers generate the morphologically complex words by emerging morphemes rather than retrieving them as

segment.

The speaker should plan his/her speech before speaking in order to avoid the errors, then he/she should organize his/her meaning and forms. The speaker should collect the right morphologically complex words to produce a correct and meaningful speech.

Language production refers to a number of processes by which we convert a thought into language output, in the form of speech, sign language or writing.

Modular theories propose that speech production progresses through a series of stages or levels, with different type of processing being completed at each level. According to Garrett's hierarchical model, speech is produced via a series of stages, as it is cited in the following:

- 1- conceptual/inferential level: the meaning to be conveyed is selected.
- 2- functional level: contents words are selected and assigned to syntactic roles (e.g., subject, verb).
- 3- positional level: content words are placed in order and function words are selected.
- 4- phonological level: speech sounds are selected.
- 5- articulation level: sounds are prepared for speech.

Early psycholinguistics described our comprehension and production of language in terms of the rules that were postulated by linguists (Fodor, Bever, & Garrett 1974). The connections between psychology and linguistics were particularly close in the area of syntax, with psycholinguists testing the psychological reality of various proposed linguistic rules. As the field of psycholinguistics developed, it became clear that theories of sentence comprehension and production cannot be based in any simple way on linguistic theories; psycholinguistic theories must consider the properties of the human mind as well as the structure of the language.

1.3 Language and the brain

The brain is one of the most important organs that is located in human's head and is composed of nerves. We find our brain like a unit but this unit has different functions.

Modular theory representation, is a branch of mathematics and that part of representation theory that studies linear representations of finite groups.

Some researchers as the modularity (e.g. Ferreira and Clifton 1986; Fodor 1983; Smith and Tsimpli 1995; Yamada 1990) say that different areas in the brain have different responsibilities. What is more, the language is the human ability to acquire and use complex systems of communication. Language is a part of the human mind, focusing on how humans learn language, how they understand and produce it, and what happens to their brain when they use language. These are some actions in which language exposes the functions of the human mind. In addition, the psychology of language is based on studying how the brain affects language learning and which factors make humans acquire, use, and produce language to learn how the brain processes language.

Learning how the brain functions is very important for a complete understanding of modern psycholinguistics. To understand the relationship between the brain and language, we need to cover the factors that make us understand how the brain is involved in language processing, the first one is the anatomy of the human brain. Second, language localization, and language area and functioning. As we address these three issues, we will see that different parts of the brain are associated with different language functions. We began our study with an analysis of the language-related areas of the human brain.

Neuroscientists have debated the evolution of the brain structures, how the parts of the brain are interconnected. Figure 1 shows a side view of the four lobes of the cerebral cortex: the frontal, temporal, parietal, and occipital lobes. Each of these areas carries out a different language task. Auditory processing is carried out in the temporal lobe. And visual processing is carried out in the occipital lobe. Then we found two different areas which are called Broca's area and Wernicke's area are involved in speech production and comprehension. Despite this, hearing spoken speech begins in the auditory cortex in the left hemisphere's temporal lobe while the interpretive functions take place in the temporal and parietal areas.

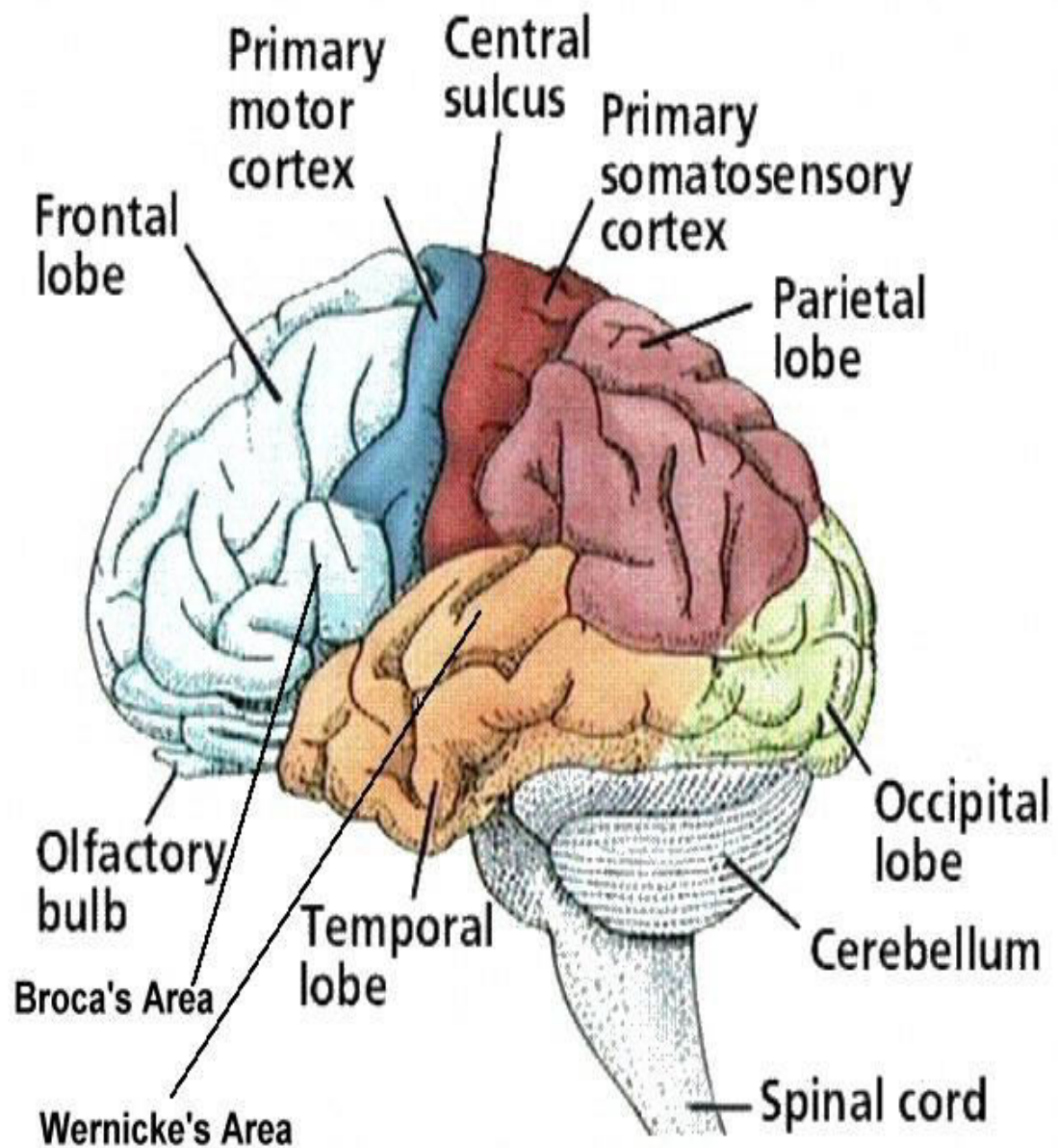


Figure01: The four lobes of the cerebral cortex view from the left.

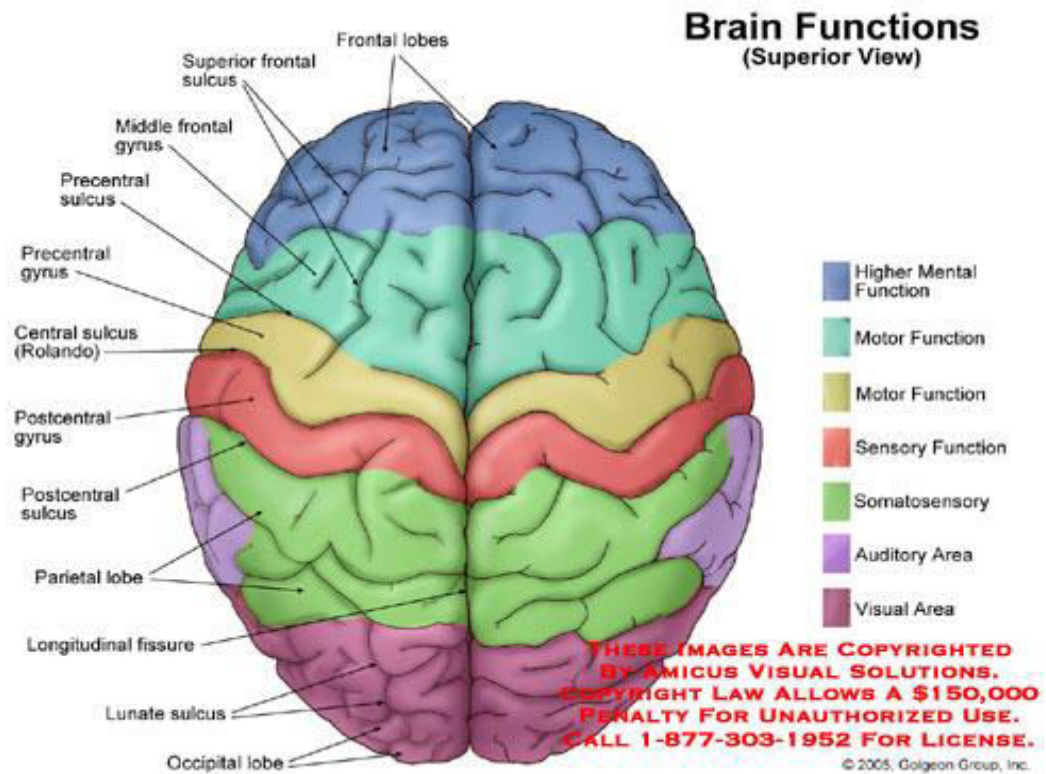


Figure 02: The cerebral cortex: view from above.

1.3.1 Language localization

The human's brain has different functions, the important one is to process language, but how brain process language? and Where language lives?

First, the brain is divided into two hemispheres which has different functions as we seen above but we are going to focus on the language function. Second, the two regions of the brains; the left hemisphere that play important roles in language processing are Broca's area and Wernicke's area.

Language localization refers to the area language functions is being carried out by other areas of the cerebral cortex. Speech production is grip by Broca's area. In the mid- to late 1800s the Europe debate that speech was localized in the frontal areas of the left hemisphere.

In the 1861 the physician and anthropologist Paul Broca described the brain of his patient Leborgne for the first time, that provided the first evidence that the facility of articulate speech was located in the left frontal lobe. Broca's research and Wernicke provide that the brain damage of different areas of the cortex produce different patterns

of language difficulties.

Broca's description of Leborgne and his evidence for the localization of articulate speech in the frontal lobe were published in his 1861 report, "Remarque sur le siège de la faculté du langage articulé, suivies d'une observation d'aphémie". "Note about the environment of the faculty of language, follows with an observation of Aphasie."

Leborgne a man brought to the hospital at age 51 years with cellulitis of the right leg. He can comprehend what was said to him, but when Leborgne was asked about the origin of his disease, he replied "only with the monosyllable tan, repeated twice in succession and accompanied by a gesture of his left hand" (Herrnstein & Boring, 1965, p.224). Leborgne remained in the hospital for twenty-one years until his death. Broca described Leborgne as follows:

Leborgne had been subject to epileptic attacks but that did not affect his daily life until he was thirty years old. In this age Leborgne lost his ability to speak and that is why he was admitted to the hospice. When he hospitalized he was already being unable to speak for two or three months. He was able to understand what the others said to him but he cannot express what he wants to said.

Broca had found the first clinical evidence that language was localized in the third convolution of the left frontal lobe. This area of cortex became known as Broca's area. Broca's aphasia is a term for damage in Broca's area causing the loss of articulate speech and some comprehension skills.

1.3.2 Language areas and their functioning

The human brain contains a number of areas with different functions, in the majority of people have the language area located in the left hemisphere. Language involves a various of cognitive processes, interacting with systems for attention, memory, perception and motor function. Sociocultural knowledge deals with the way in which we use language in different purposes. Therefore, language processing must be contributing by many areas of the brain. Neuroscience is a field that focuses on studying the relationship between brain areas and language functioning.

Different functions are associated with the left and the right cortical hemisphere.

Language is largely a left hemisphere function while the right hemisphere is specialized for functions related to holistic processing. Furthermore, the brain controls the body by a division of action, so to speak. The left hemisphere controls the right side of the body,

including the right hand the right arms, and the right side of the face, while the right hemisphere controls the left side of the body.

1.3.3 Language adaptation to humans

In human evolution brains and vocal apparatus adapted to the exigencies of linguistic communication, languages are products of evolution. The emergence of language is a process in which individual speakers make inventions which are easier to produce and through the failure to communicate, they learn to avoid structures which are complex and difficult to understand. i.e. When there is more than one structure, the structure which is more difficult to process will be used less frequently.

However, speakers naturally prefer structures which are easier to produce and through failure to communicate, they learn to avoid structures which are difficult to understand, i.e. when there is more than one structure expressing a particular function, the structure which is more difficult to process will be used less frequently.

In other word, the emergence of language is one of co-evolution: humans adapted to language, but language also adapted to humans. Indeed, there are reasons to think that languages did most of the evolving. As Deacon (1997) points out, languages need humans more than humans need languages (they need our brains to survive and reproduce).

Thinking in terms of languages adapting to humans has deep modulation for the way the think of language universals: it suggests that it might be more revealing to view them not as a set of constraints defining a possible human language encoded in the genome, but rather as the result of convergent evolution. Deacon (1997) developed this idea including that:

universal rules and implicit axioms of grammar are not determine at all. i.e. it is never stored or located anywhere. Some of the sources of universal selection on the evolution of the language structures includes immature learning biases, the constraints of human vocal articulation and hearing, and the requirements of symbolic reference...because of these incessant influences language independently come to resemble one another, not in detail but in terms of certain general structural properties, and any disruption that undermines a language's fit with its host will be selected against, leading to reconvergence on universal patterns(Deacon,1997,p.116).

1.4 What is aphasia?

Communication and interaction with others are essential to life. Aphasia /fəˈkiːzi/ is a loss of words and function i.e. loss or impairment of the power to use or comprehend words refers to the brain damage. It is language processing disorder, it does not affect perception, muscle activity, or hearing (Darmasio, 1992). The disorder occurs when the left cerebral hemisphere is damaged. It is a language disorder that results in brain damage caused by disease or trauma (Franklin, Rodman, Hyams 46).

The weakness ability of using or comprehending words refers to the brain dysfunction which causes the communication disorder. While aphasia impairs the ability to speak and understand others, and the most patients with aphasia suffer with the difficulty of reading and writing. In other words, the matter of language disorder ranges from having difficulty remembering words to being completely unable to speak, read or write.

However, each patient with aphasia is different from the other one some have less errors than others.

Aphasia is more common in older adults, usually those who have stroke. Those persons may have difficulty in using the right words to complete their thoughts. They may also have troubles in understanding what the other said, reading and comprehending written words, writing words, or using numbers.

Aphasia is usually caused by the brain injury with damage of one or more parts of brain that deals with language.

In addition, aphasia as other types of illnesses have also symptoms includes: trouble speaking, struggling with finding the appropriate words, using inappropriate words in conversation. Person may have difficulties with hand writing, others have trouble in using numbers or doing simple calculations. However, aphasia has different types such as Broca's aphasia, Wernicke's aphasia, conduction aphasia...etc.

1.4.1 Broca's aphasia

Broca's aphasia caused by the damage of the third convolution of the frontal lobe, patients with Broca's aphasia have a tremble producing speech (broken speech). They can speak but very hardly and slowly, shortened speech, using simple grammar and loses the semantics (the meaning of what is said). It is also occurring in writing.

Grammatical inflections are often lacking, such as the third person present tense "s" (e.g. "Mary want candy" for "Mary wants candy") and the auxiliary "be" ("Joe coming"

for “Joe is coming”), as are articles, prepositions, and other so called function words. (Steinberg, Nagata, Aline, Psycholinguistics, 2003.p332). here is an example of broca’s aphasia:

Interviewer: Were you in the Coast Guard?

Patient: No, er, yes, yes...ship...Massachu...chusetts...Coast Guard...years. (raises hands twice with fingers indicating”19”)

Interviewer: Oh, you were in the Coast Guard 19 years?

Patient: Oh...boy...right...right.

Interviewer: Why are you in the hospital?

Patient: (points to paralyzed arm) Arm no good. (point to mouth) Speech...can’t say... talk, you see.

Interviewer: What happened to make you lose your speech?

Patient: Head, fall, Jesus Christ, me no good, str...oh Jesus...stroke.

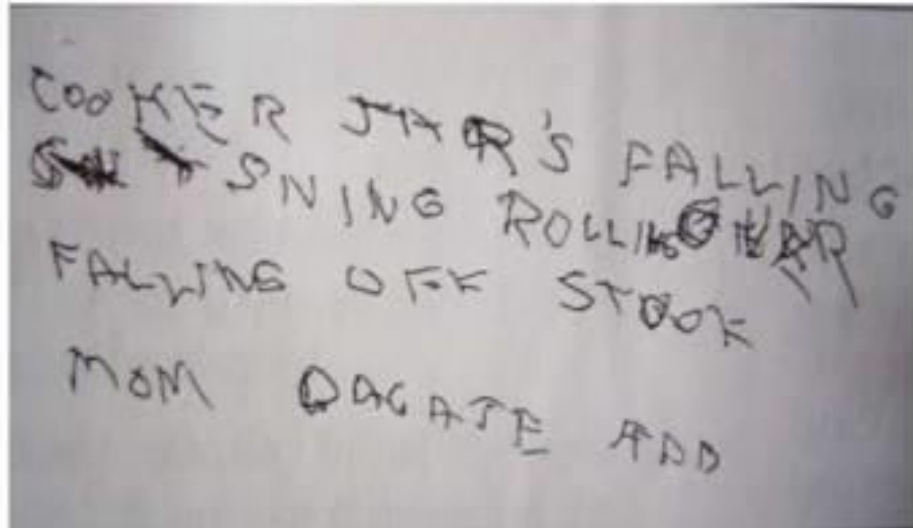
Interviewer: could you tell me what you’ve been doing in the hospital?

Patient: Yes, sure. Me go, er, uh, P.T. nine o’cot, speech...two times...read...wr...ripe, er, rike, er, write...practice. (Gardner,1975, p.61)

There are two forms of aphasias: fluent and non-fluent. Fluent aphasia the patient knows what he/she wants to say, but has difficulty communicating it to others, whereas non-fluent the person can hear the voice or read, but cannot understand the meaning of the message. Broca’s aphasia has been characterized as non-fluent aphasia or expressive aphasia.

Thus, Broca’s aphasia affects speech production rather than speech perception and comprehension, so this aphasia is primarily a production disorder with little effect on comprehension. Patients with broca’s aphasia are aware about the difficulties that has been faced them when they speak.

A patient with Broca's aphasia wrote this



Notice the use of very few words, but the words do make some sense

Figure03: An example of handwriting of patient with Broca's aphasia.

1.4.2 Wernicke's aphasia

Wernicke's aphasia is the result of damage in the Wernicke's area i.e. damage is near the auditory area near the back of the temporal lobe. It is the opposite of Broca's aphasia characterized as fluent aphasia receptive aphasia, the patients with Wernicke's aphasia can hear a voice or read the text, but cannot understand the meaning of the message. The problem is the inability of understanding the language of others, or what the others said. The person can produce fluent speech but semantically incoherent, also they have difficulty in naming objects in order to complete their thoughts. They may also produce jargon and non-sense words. It can seem normal that the listener thinks that the patient has misheard what was said.

Wernicke's aphasics fail to convey the ideas they have in mind, they are unaware of this failure, because of language comprehension is impaired. The ability to repeat words and

phrases is also impaired.

Fluent aphasia results in speech that is sort of grammatical “word salad” in which words, phrases and non-sense words are jumbled together. (Timothy B. Jay, 2003, p.39). here is an example of speech from a patient with Wernicke’s aphasia:

Boy, I’m sweating. I’m awful nervous, you know, once in a while I get caught up. I can’t mention the tarripoi, a month ago, quite a little. I’ve done a lot well. I impose a lot, while, on the other hand, you know what I mean. I have to run around, look it over, trebin and all that sort of stuff. (Gardner, 1975, p. 68)

some of this words and expressions have meaning in isolation, but the way they are tossed together in strings makes little sense.

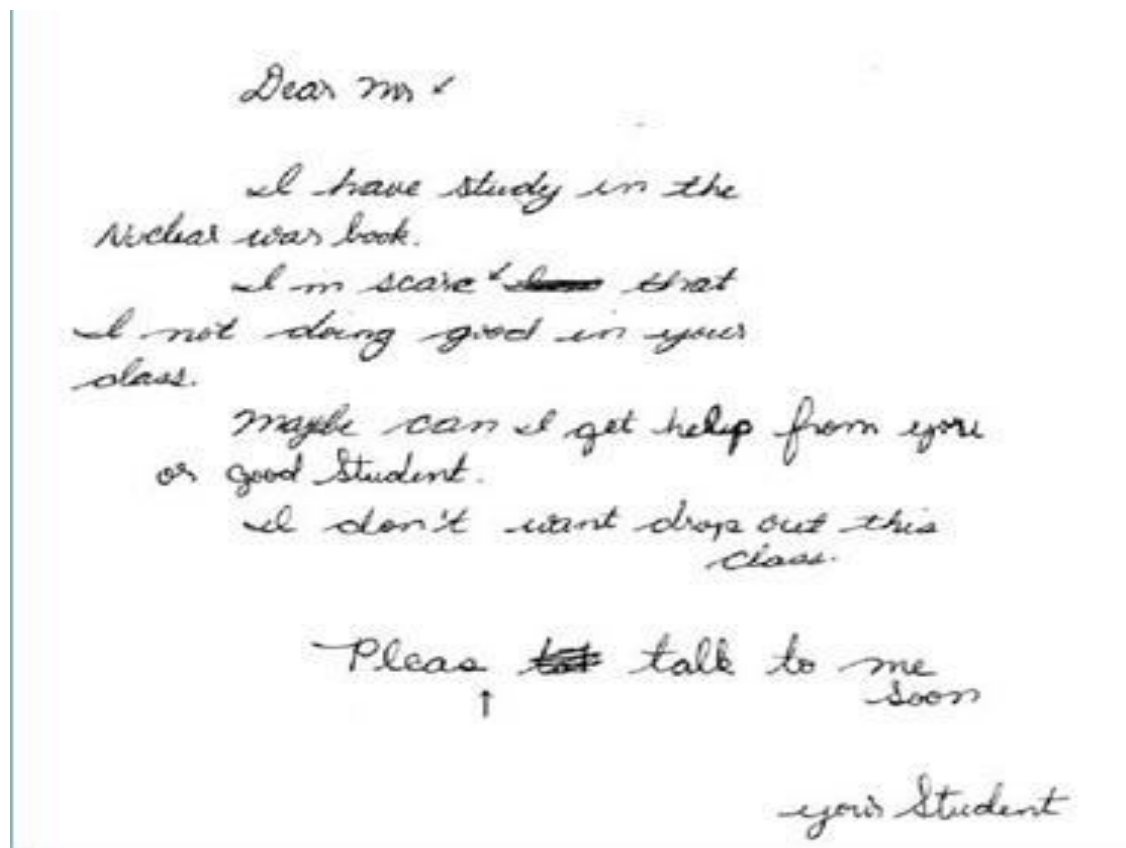


Figure04: An example of handwriting of patient with wernicke’s aphasia.

1.4.3 Other forms of aphasia

There are different types of brain injury which is less permanent than aphasia.

Wernicke predicted another type of aphasia that called conduction aphasia. He proposed that Broca's area and Wernicke's area are connected with the Arcuate Fasciculus.

Conduction aphasia is the consequence of the damage in the Arcuate Fasciculus, it is the inability of conducting between listening and speaking.

Patient with conduction aphasia is like patient with Wernicke's aphasia. They are fluent but have many Paraphasic errors.

Conduction aphasia is characterized by good comprehension but impairment in repeating what was heard. People with conduction aphasia cannot read aloud but they can comprehend when they read silently. Writing may also disturb.

Another type of aphasia which called Transcortical aphasia. It has two main characteristics: first, the patient has the ability to repeat spoken language. second, their lesion lies outside the perisylvian language centers.

The aphasia most often result from vascular damage at the junction between the middle anterior, and posterior cerebral arteries. Transcortical can appear in motor or sensory form. Transcortical motor aphasia results in non-fluent speech and difficulty in naming (anomia). Although the ability to echo another person's speech is retained.

Comprehension is good, and repetition is too. The damage is in front of or behind Broca's area. Transcortical sensory aphasia is characterized by fluent speech and the ability to echo or repeat. Comprehension of spoken language is poor, as are reading and writing. (Timothy B. Jay, 2003, p.40)

Furthermore, Global aphasia is the inability of patients to speak or comprehend language, they cannot read, write, repeat or name objects. Global or total aphasia is the result of the entire perisylvian region, thereby compromising both Broca's and Wernicke's areas and the arcuate fasciculus. Furthermore, Anomic aphasia another types of aphasia. In anomic aphasia the only disturbance is a difficulty in finding the correct words. This is an unusual form of aphasia that typically follows lesions in the posterior aspect of the left inferior temporal lobe, near the temporal occipital border. Patients with anomic aphasia also have a defect in the right superior quadrant visual field. This forms of aphasia are outlined in table 01.

Disorder	Site of lesion	Spontaneous speech	Speech comprehension	Table 01: Site of lesion and characteristics of aphasia s. The table shows the
Broca's aphasia	Left frontal cortex rostral to base of motor cortex	Non-fluent	Relatively intact	
Global aphasia	Anterior and posterior language areas	Non-fluent	Poor	
Transcortical motor aphasia	Area anterior and superior to Broca's area	Non-fluent	Relatively intact	
Wernicke's aphasia	Posterior part of the superior and middle left temporal gyrus and left temporoparietal cortex	Fluent	Impaired	
Conduction aphasia	Temporoparietal region, above and below posterior sylvian fissure	Fluent	impaired	
Anomic aphasia	Posterior part of the superior and middle left temporal gyrus and left temporoparietal cortex	Fluent	Relatively intact	
Transcortical sensory aphasia	Posterior to Wernicke's area around boundary of occipital lobe	Fluent	Poor	

different types of aphasia and its sites of lesion in the brain. It shows also the characteristics of each form of aphasia.

1.5 Communicating with an aphasia patient

Aphasia occurs when the blood supply vessel that carries blood to the language relevant area gets block, damaging the cells that controls communication. Communication is very important in our daily life. Communicating with an aphasia patient sometimes can be so challenging. It entitles a whole lot of team work and collaboration amongst the caring team (multi professionals) that includes: doctors, speech therapists, caregivers and the patient with aphasia. In order to help aphasic person should be properly transmitted by all the team members.

The person with aphasia also has a great role to play by being active and following the advice given by all team members especially the therapist who must always examine the well-being of the aphasic person in question before starting any rehabilitation programme. Sometimes it is difficult for caregivers to understand and know the best ways to communicate with a person who has aphasia. Caregivers should learn other alternatives to communication that are different from talking (oral speech) or writing for the benefit of aphasic persons. (Sarno, 2004)

communicating with someone who has aphasia is different and complex because the loss of speech becomes a big challenge to the patient.

1.6 Consequences of aphasia and quality of life

A person with aphasia is in state where she/he cannot communicate easily. He/she faced not only with language impairments but also long-term psychological effect such as personal losses and depression. The impairments reduce their activities with daily living. When physical functioning of a person with aphasia decreases, quality of life also deteriorates. (Bond & Corner, 2004, p.15)

In caring for a person with aphasia, a caregiver together with other professional team mates must understand first and foremost the sudden change that has occurred in the life of an individual with aphasia and try to encourage them to use their remaining abilities and enjoy life to the fullest.

1.7 Conclusion

To sum up, it can be said that psycholinguistics is an area of study which draws from the combination of both linguistics and psychology, focusing on the language processing and brain dysfunction. In this theoretical chapter, five main concepts have been dealt with. These concepts help define the field of psycholinguistics. They are

language process, language and brain, language area and functioning, aphasia and finally consequences of aphasia.

Chapter two

Data analysis

II Chapter two: Data analysis

2. Introduction

2.1 Description of the place investigation

2.2 The samples

2.2.1 Psychologist's interview

2.2.2 Students questionnaire

2.3 Methods and materials

2.4 Research tools

2.4.1 Description of the psychologist interview

2.4.2 Description of the student's questionnaire.

2.5 Data analysis

2.6 Conclusion

2. Introduction

This chapter describes the procedures and the methodology used in collecting and analyzing data. The aspects discussed include a description of the place of investigation, the samples, methods and materials, research tools and the methods of data collection and presentation. The chapter also describes the way for data analysis. Finally, chapter concludes with the analysis of data.

2.1 Description of the place investigation

This study is carried out in Algeria, exactly in two areas: Oran and Mostaganem. The first investigation was done in Oran precisely in the polyclinic of El-Yasmine. The investigation was done with a psychologist were selected in this study. The second is a questionnaire that was done in Mostaganem with English students of Abd El-Hamid Ibn Badis university. Thirty students participated in this investigation in order to see how much learners are aware about the term of Aphasia. The two areas of study are located in the same region of Algeria and are found in the urban area in Algeria. The interview was done in Oran because I live there, so that help me to do it in the free time. While the questionnaire was done in Mostaganem in order to give out to my colleagues of English language in the university of Mostaganem.

2.2 The samples

The investigation will be carried out through:

Interview: face to face interview with psychologist was conducted by the researcher in order to gather information relevant to the study.

Questionnaire: these were handed out by the researcher to various students of the English language to get their point of views and suggestions. The formulated questionnaire contained various questions relevant to the research objective.

2.2.1 Psychologist's interview

To supply collection of detailed information from the psychologist about her experience with aphasia and the challenges faced by the two: the patient and the psychologist. Interview method was a meeting between psychologist and the researcher at which information is obtained with the objective of collecting relevant information for purpose

of research. It allows respondents to speak out her opinions, attitudes and experiences about a problem in question through the use of investigation questions. The interview was carried out with psychologist selected to participate in the study. The time arranged for the interview was exactly 30 minutes. The interview questions were formulated on the basis of the main research questions and sub questions.

The research question was translated from English to Arabic, the national language of Algeria, and the medium of therapy in all hospitals and clinics. For this reason, the respondent was interviewed in Arabic for better communication between the interviewer and the interviewee.

2.2.2 Students questionnaire

The research provides more information from the students about their backgrounds about the term aphasia and their behaviors according to patronize with aphasic person. The questionnaire method was seen suitable. Questionnaire is handed out to English students from different specialties with the objective of supporting the research question with relevant information. It allows respondents to seem their knowledge, ideas and behavior about language disorder and brain dysfunction.

The questionnaire was formulated on the basis of different questions. The purpose of the questionnaire is to investigate how much learners are aware about the term Aphasia or Brain Dysfunction.

2.3 Methods and Materials

This study uses the interview guide as the main method of gathering data. The researcher visited the selected polyclinic and also notified the polyclinic of its selection for the study. The purpose of the study was explained directly to the psychologist. During the visit the arrangement were made regarding the time of data collection. Primary data was obtained from the psychologist, learners (using questionnaire and interview). Respondents selected for the study were given questionnaire to fill. The respondents were given sufficient explanation before responding to the items. The researcher made all possible attempts to ensure that the data gained from questionnaire and interview will be valid and reliable.

2.4 Research tools

Tools of study were planned and it was conducted before starting the collection of data. This helps the researcher to review and restructure the tools for data collection in order to obtain information that focuses on the research questions and to develop a deeper understanding of the situation to be studied.

The research tool was done by interviewing a psychologist in a polyclinic. The interview guide questions (Appendix 1) were in English. The English interview guide questions were translated to Arabic due to the fact that the means of communication in Algeria is Arabic.

The second research tool was through questionnaire in the university of Mostaganem. The questionnaire (appendix 2) were in English and was done with students of English of different levels in the university of Mostaganem in order to support the research with sufficient data.

2.4.1 Description of the psychologist interview

The psychologist: Khouatir Houria; 42 years old, has a certificate in school health. In addition, she has a diploma in psycho-clinician, she has sixteen years of experience in psychology and school health. She chose this work because she wanted to help people. For this reason, she was very much interested to know how she can help patients to develop their abilities in order to cure them.

2.4.1.1 What do you understand by the term Aphasia?

When responding to this interview question psychologist answered by saying that:

I think aphasia is a disorder affecting and language skills and is caused by damage to the brain, either by injury or illness. There are a variety of types of aphasia which can have symptoms ranging from difficulty speaking, difficulty writing and reading, or difficulty comprehending speech.

Aphasia usually occurs suddenly often as the result of stroke or head injury, but it may also develop slowly. The disorder impairs both the expression and understanding of language as well as reading and writing.

According to her, person with aphasia has trouble in using and comprehending language. She said that the aphasics has difficulties in speaking, understanding, writing

or reading relating to the type of the aphasia that the patient have. She explained that Aphasia is the result of stroke or brain injury.

2.4.1.2 Do you have some patients with Aphasia?

When asked this question, psychologist had the following explanation:

In the past, I had two patients with two types of aphasia. The first one was a woman of 54 years old, she did an accident by a car and she had a stroke in the head. A stroke occurs when blood is unable to reach a part of brain. Brain cells die when they do not receive their normal supply of blood, which carries oxygen and important nutrients. That result to her Broca's aphasia, she was frequently speaking in short, she omits small words, she can understand the speech of the others, but she cannot speak easily. When she was facing difficulties in expressing her thoughts she just cries. The second was a man of 58 years old, I did not remember how he got aphasia. But I remember his case because he had the contrast case of the woman. He had Wernicke's aphasia, he speaks a long sentence but without meaning, and use unnecessary word, sometimes he creates new words. He had difficulty of understanding the others.

According to her explanation, we distinguish between Wernicke's aphasia and Broca's aphasia referring to her examples. Person with Broca's aphasia can understand others but cannot express her ideas because her difficulty of speaking. However, the second can use a correct word but without meaning.

A- How do you diagnose them?

Started by saying the following:

The physician is the first who recognize aphasia, he treats the patient for his/her brain injury. The physician performs tests that require the aphasic to follow commands, answer questions, name things...etc. if the physician suspects aphasia, the person is referred to a speech pathologist, who performs a comprehensive examination of the person's ability to understand, speak, read and write.

For her, to detect aphasia the physician should performs a test, if suspects aphasia, he referred to the speech language pathologist who should do another test to prove aphasia.

2.4.1.3 Which kind of treatment do you use it with them?

Regarding this question, psychologist explain that the treatment should contains the psychological side more than the physical one.

Before treating the person with aphasia, we should first be curing him psychologically in order to make the patient respond with the treatment. Then, the therapy should begin as soon as possible after the injury. Rehabilitation with speech-language pathologist involves extensive exercises in which patient read, write, follow directions and repeat what they hear, so the psychologist work in coordination with a speech-language pathologist in the therapy of patient with aphasia, the first focus on the psychological side whereas the second in the practical one by doing exercises to him/her.

She means that the treatment of the aphasic should follow by two persons: the psychologist and the speech-language pathologist who working together for the therapy of the patient.

2.4.1.4 Did patients improved with the treatment?

The psychologist answers to this question by saying that:

Some people with aphasia recover without treatment, others take more time to recover with treatment. For most cases of aphasia, the language abilities may return in a few hours or few days. While many patients recovering after few months. But we continue with them after the recovering to help them psychologically and encourage them to incorporate in the society.

According to her, most people with aphasia improved with the treatment by just few care.

2.4.1.5 What challenges do you faced when curing patient with aphasia?

She explained that the main problems refer to the patient more than to the therapist.

Normally the patient with aphasia has problems in the vision, movement and balance, because many people have weakness or paralysis after a stroke. Problem with communication, they have difficulty with speech and language after their stroke. Another difficulty with memory and thinking, their memory and concentration is

affected by stroke but it can also affect other thinking processes. The emotion after the stroke also impact, that can lead to problems as depression.

2.4.1.6 How do you overcome these challenges?

With regard to challenges faced patients with aphasia, psychologist pointed out how they overcome these problems.

The best way to overcome this challenges refers to the patient him/herself. i.e. with few volitions of him /her and some advices and curing from us they can reform. About the physical problems as vision and so on it refers to the doctors but about psychological problems is our responsibility where the speech and language is the return to the speech-language pathologist to cure the patient in order to help him/her to overcome their problems.

She said that the best and the effect way to overcome problems of aphasic person is referring to the person him/herself by his volition.

1.4.1.7 What other information would you like to add it concerning persons with Aphasia?

She added some relevant information about the term aphasia and the aphasic person.

The patient with aphasia suffer many troubles, but with special therapy he can recover to their previous life. But they should start their treatment early in order to cure easily. Because aphasia is a complex illness, the therapists should take their time with the patient to help him in treatment, me as psychologist, I should focus on the psychological side because if the patient take his care psychologically he/she will responsive to the treatment. Most aphasic persons are hospitalized for some period of time for treatment. Assessment of the extent and type of language disorder is made during that time.

The psychologist concluded that the patient with aphasia should take special care. She also added that he should hospitalize for effective treatment.

2.4.2 Description of the student's questionnaire

The different sexes of the participants:

The aim behind this question is to know the gender or the different sexes of the students who participate in this investigation.

Gender	Number	%
Male	13	43.3
Female	17	56.7
Total	30	100

Table02: Gender of the participants.

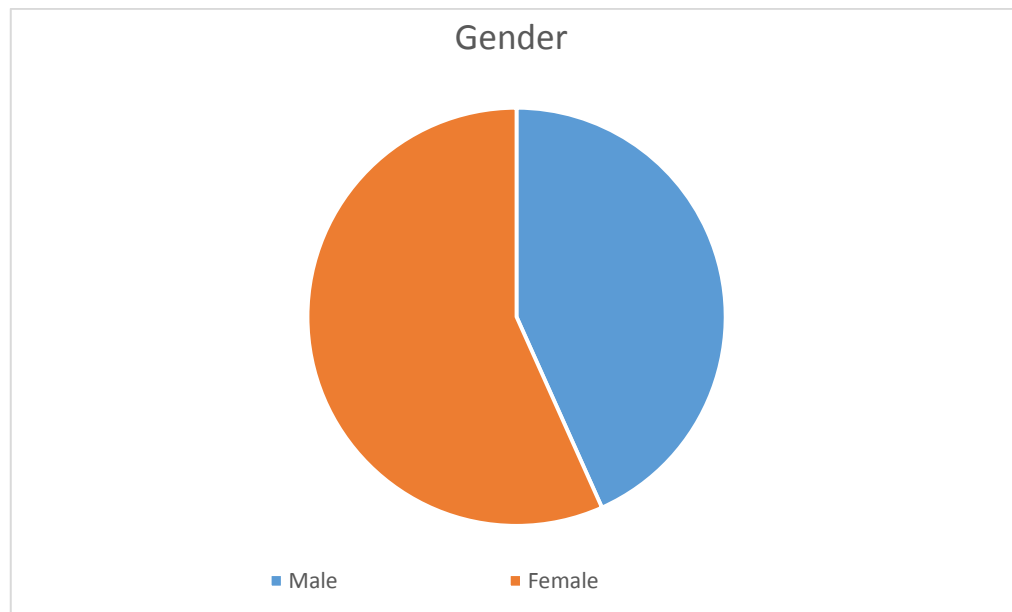


Figure05: The gender of the respondents.

The majority of the respondents is female (56.7%) more than males (43.3%).

What is the level of each student?

The reason of this question is to know the level of each student.

Levels	number	%
L (1,2,3)	7	23.3
M1	9	30
M2	14	46.7
Total	30	100

Table03: Student's levels of study.

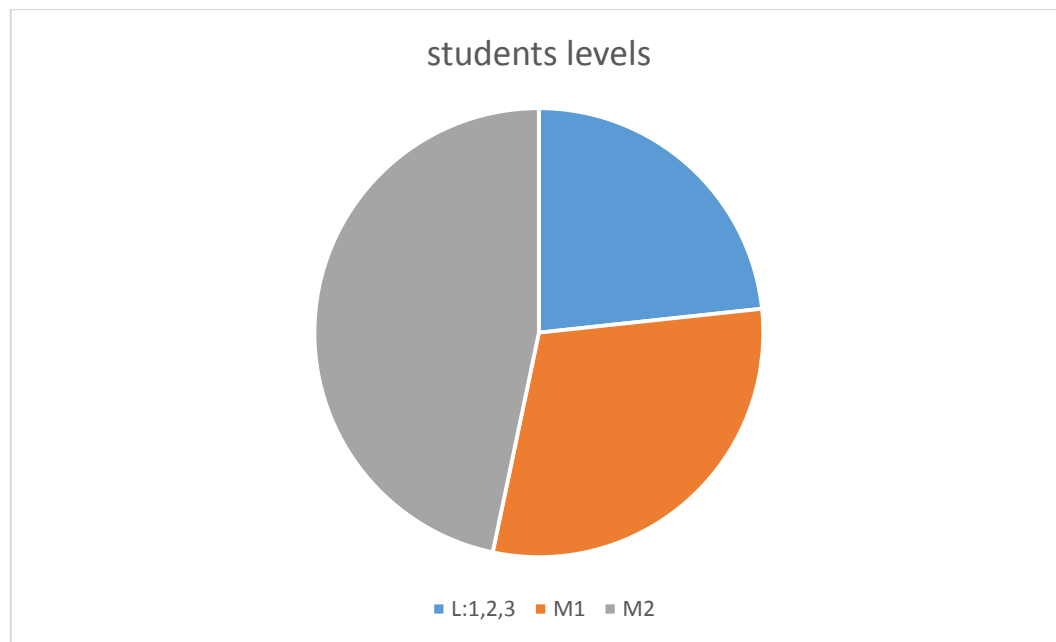


Figure06: Student's levels of study.

The table03 and the figure05 shows the number of students in each level, most of them (46.7%) study master two level, and (30%) study at master one, where the others (23.3%) study at the different levels of license. The table have been different levels of high education.

1- Do you have problems in using language?

The purpose of this question is to know the difficulties and problems that face students in using language.

Students answers	Number	%
Yes	15	50
No	08	26.7
Too much	07	23.3

Table04: Rate of students who has problems or not.

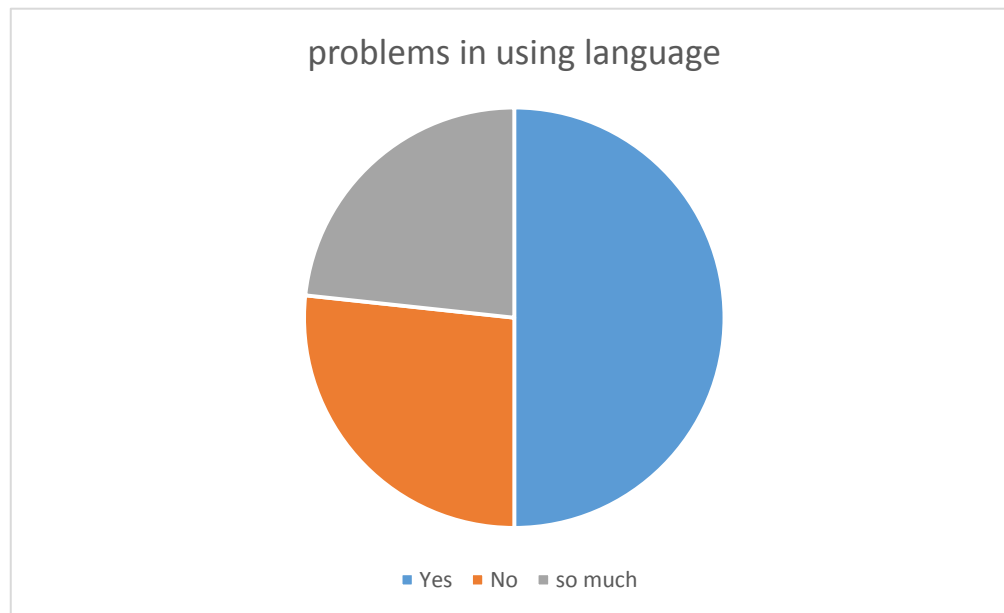


Figure07: Rate of students who has problems or not.

Most of students (50%) have problems in the use of language, some of them (26.7%) have not problems, however the others (23.3%) have so much problems than the others.

2- Which kind of problems do you have?

The aim of this question is to see what problems that the learners suffer from.

The student's answers	Number	%
Aspects of language	10	33.3
Communication	17	56.7
Others	03	10

Table05: The different problems of using language.

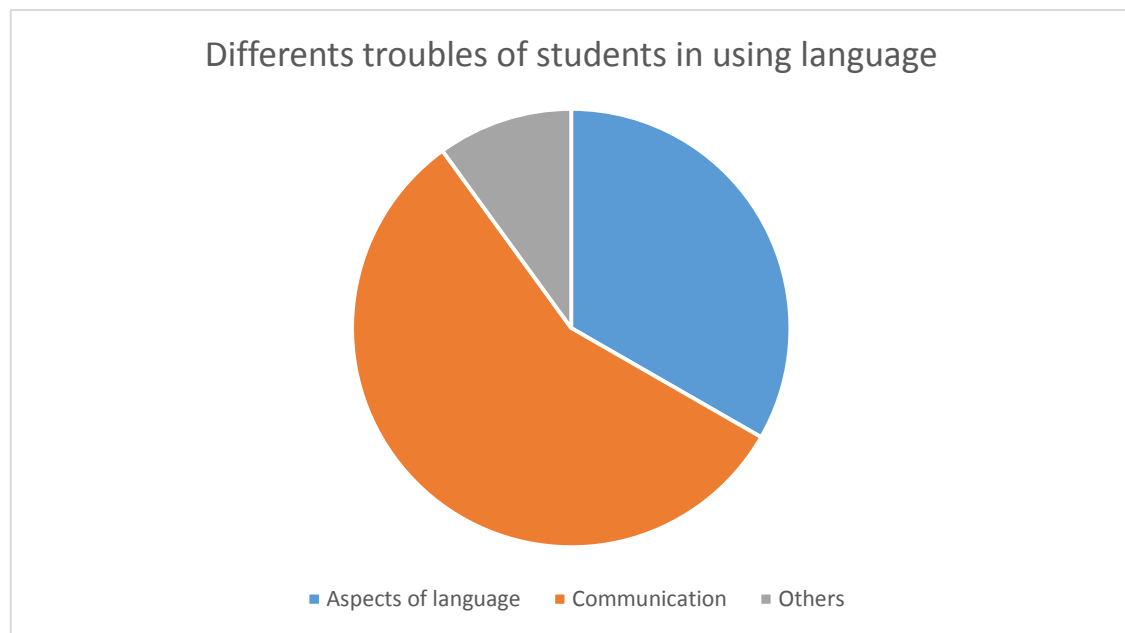


Figure08: The different problems of using language.

The table05 and the figure07 show the different problems of using language according to the learners. The majority of them (56.7%) have problems in communication, some of them (33.3%) their problems with Aspects of language, very few learners have other problems.

3- According to you, where does language live?

The question aims to know how much learners are aware about language localization.

The answers	Number	%
Left hemisphere	14	46.7
Right hemisphere	12	40
Both	04	13.3
Total	30	100

Table06: The language localization according to students.

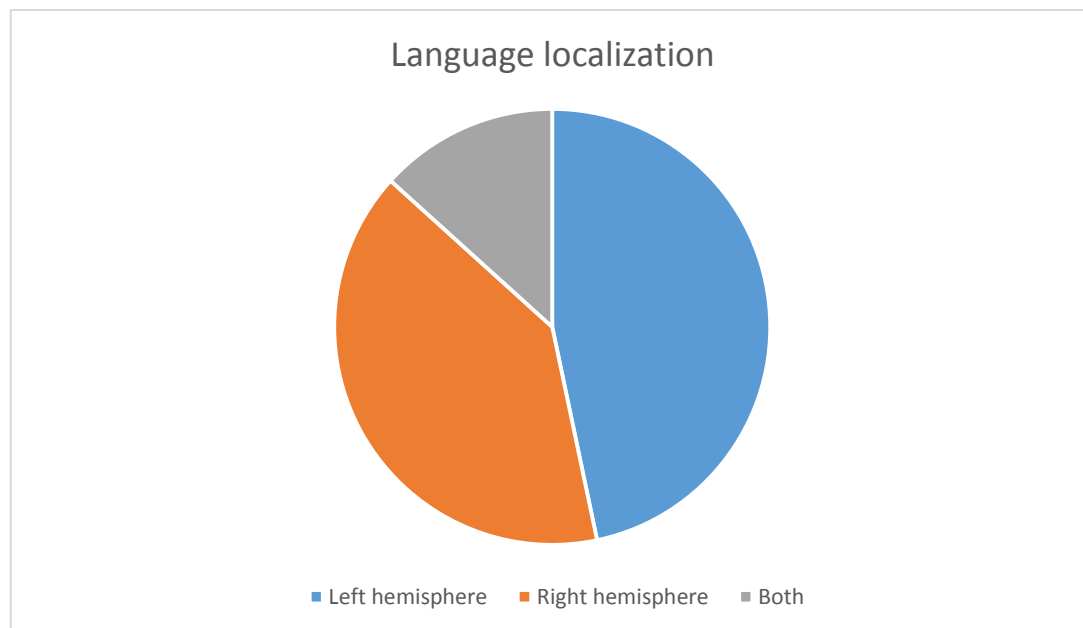


Figure09: The language localization according to students.

Most of students (46.7%) said that the language lives in the left hemisphere, whereas (40%) of them said that it lives in the right, however just few students (13.3%) said that it lives in both areas.

4- What is aphasia?

The aim behind this question is to see if students have knowledge about aphasia or not.

The answers	Number	%
Physical illness	07	23.3
Communication problems	08	26.7
Brain injury	15	50
Total	30	100

Table07: The answers about the term aphasia.

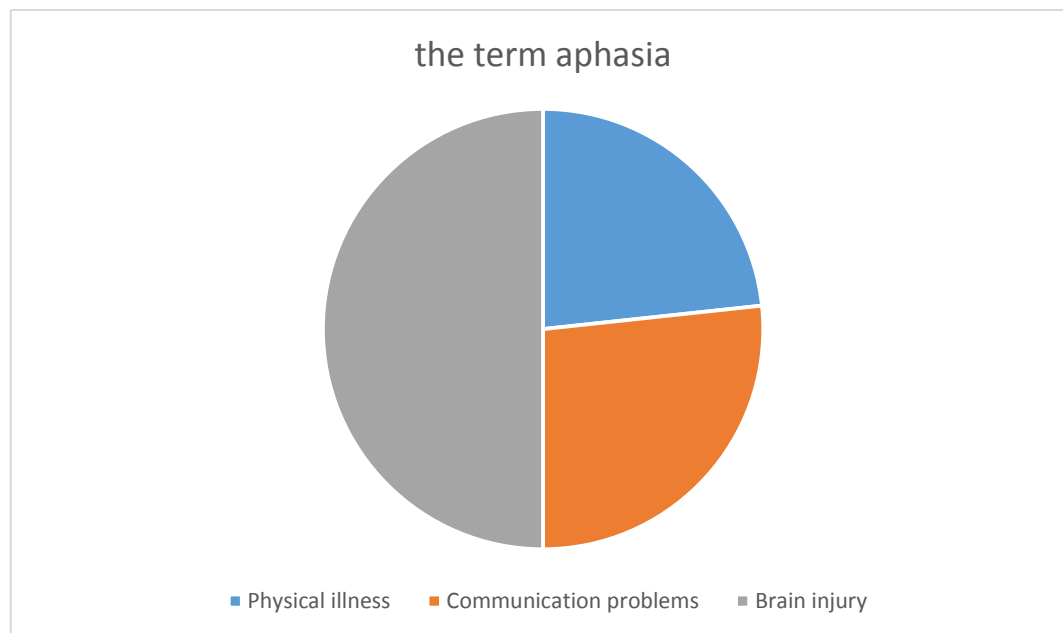


Figure10: The answers about the term aphasia.

Half of student (50%) who represent the half was said that aphasia is a brain injury. then, (23.3%) said that aphasia is a physical illness. The others (26.7%) said aphasia is communication process.

5- Do you know someone who suffer from aphasia?

The purpose of this question is to know the appropriate answers which given by the students.

The answers	Number	%
Yes	03	10
No	27	90
Total	30	100

Table08: Known someone who has aphasia.

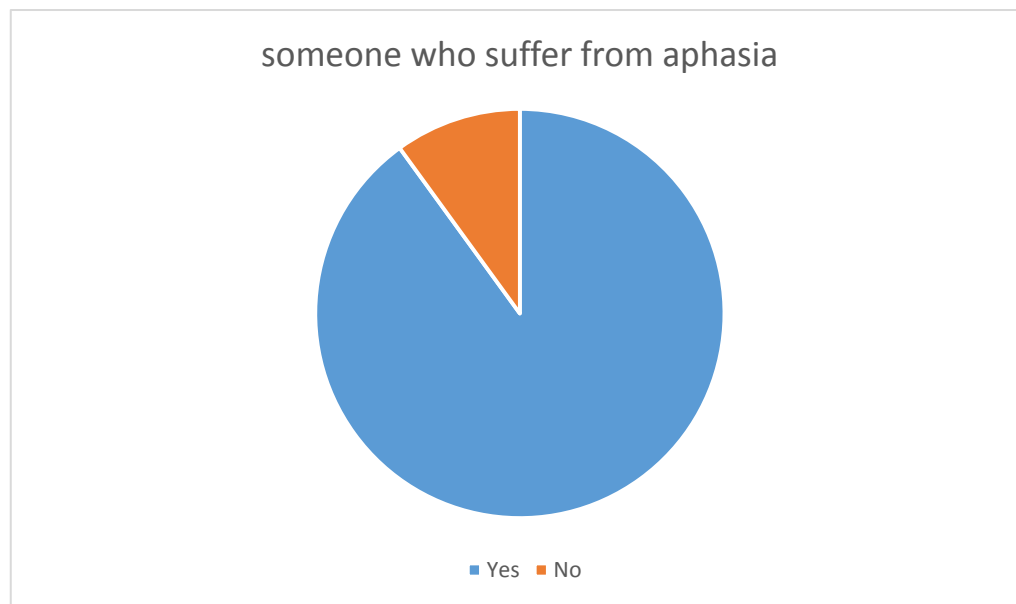


Figure11: Known someone who has aphasia.

Nearly most of student (90%) do not known someone who suffer with aphasia. Just few number of them (10%) known this kind of patients.

6- Do you heard about someone who suffer from Aphasia?

The aim of this question is the same purpose with the question above, to know about the suggestions of students.

The answers	Number	%
Yes	05	16.7
No	25	83.3
Total	30	100

Table09: Heard about aphasic person.

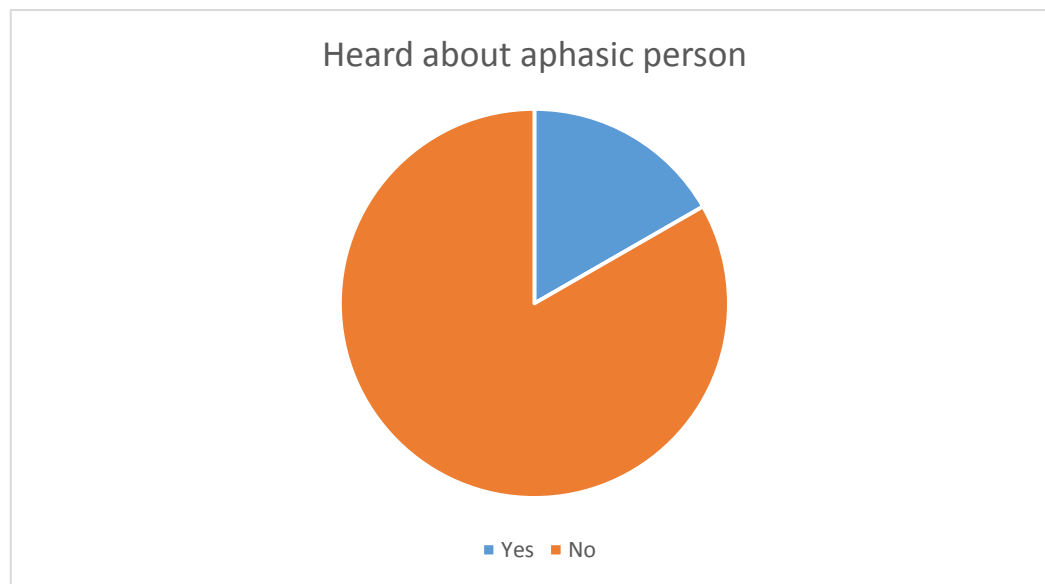


Figure12: Heard about aphasic person.

The majority of learners (83.3%) do not heard about any aphasic person but the others (16.7%) was heard about this type of patients.

7- Do you read about Aphasia in books, internet...etc.?

This question aims to know how many students read about the term aphasia and to see if they are aware about it or not.

The answers	Number	%
Once	15	50
Twice	05	16.7
Never	10	33.3
Total	30	100

Table10: Reading about aphasia.

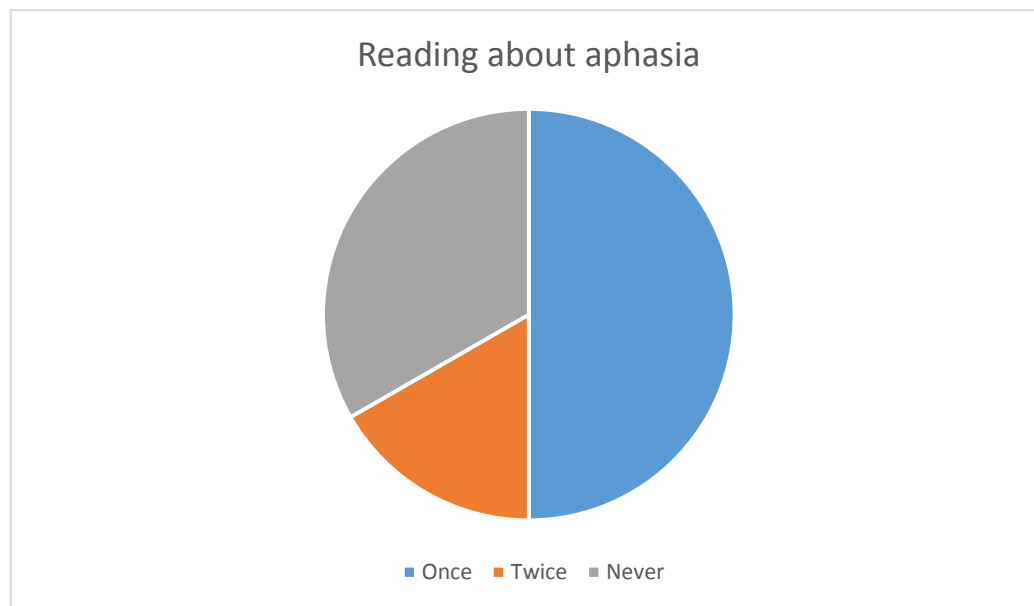


Figure13: Reading about aphasia.

Majority of learners (50%) said that they read about aphasia just once. Students who read about it twice represent (16.7%) of the number of students. The others (33.3%) said that they have not read about it yet.

8- If you face someone who has aphasia what do you do?

The purpose of this question is to know what the students do if they face someone who has aphasia and he/she need a help.

The answers	Number	%
Leave him/her	08	26.6
Help him/her	20	66.7
No idea	02	6.7
Total	30	100

Table11: Behaviors of students toward aphasic person.

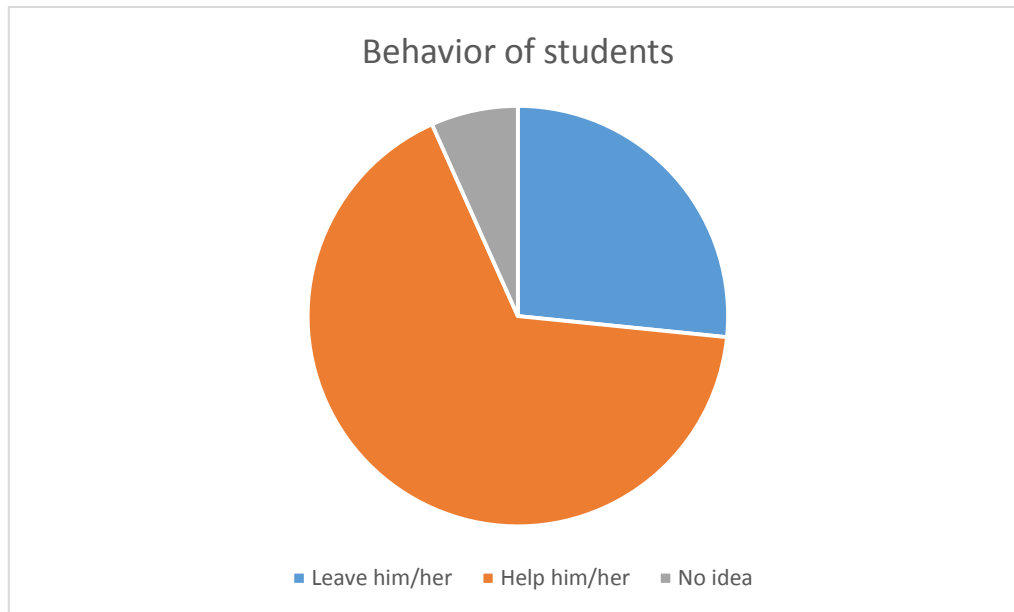


Figure14: Behaviors of students toward aphasic person.

The majority of students said that they help aphasic person if they face him/her.

Whereas the others said that they live him/her without any help. Few of them have not any idea.

9- Do you want to read more about the term Aphasia in the future?

The aim behind this question is to see if students interact with the topic, and they want to rich their knowledge with this term or not.

The answers	Number	%
May be	05	16.7
Of course	25	83.3
Never	00	00
Total	30	100

Table12: Reading about aphasia in the future.

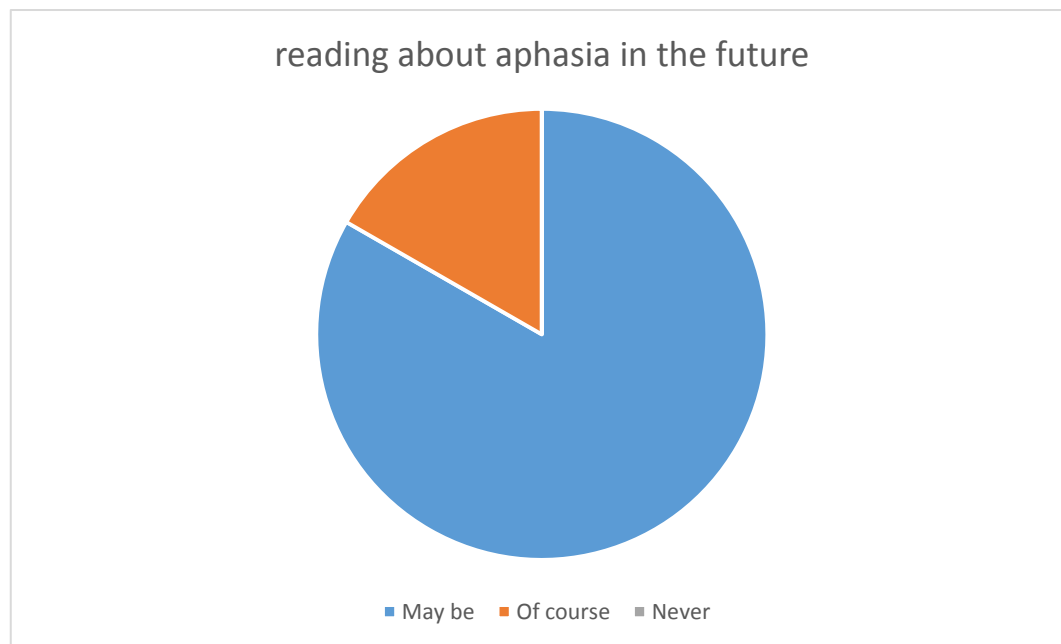


Figure13: reading about aphasia in the future.

Table12 and figure 13 show the different answers of student about reading about aphasia in the future, nearly all of them (83.3%) said that they will be read about it illness few of them (16.7%) who are not sure if they will be read about aphasia or not.

10- If you have something to say or a comment please add it.

The purpose of this question is to give the learners the occasion to comment or to add something about this topic.

About this question just few number of learners (02) said that they like this topic and they want to read about it in the future, also they comment that the questionnaire gave them a chance to heard about this term may be they take it as a research in the future. The others did not add anything and they leave this question.

2.5 Data analysis

Data analysis is the practice of extracting useful information from raw data. Data analysis is the process of organizing the data collected for example into categories (Khothari,2008). In this study the preliminary data analysis was done after an interview and a questionnaire to check if there was any information necessary for the study that was missing.

The data collected was translate from Arabic to English. Whereas, the questionnaire was done in English because it was directed to the students of English. Then, the objective analysis was used to organize the translate data.

The interview and the questionnaire of each participant were checked and presented in relation to research questions. Furthermore, research views based on the informant's answers were given backed up by literatures reviewed.

2.6 Conclusion

To conclude, the relevant information which support this research question was collected from the interview and questionnaire. The participants of these two methods provide this work with valid and reliable data.

Chapter three
Discussion of the findings

III Chapter three: Discussion of findings

3. Introduction

3.1 Discussion of results and findings

3.1.1 Discussion of the interview results

3.1.2 Discussion of the questionnaire results

3.2 Recommendation and suggestions

3.3 Limitations of the study

3.4 Conclusion

3 Introduction

This chapter deals with the practical side of the study. Its main objective is to assess the gathered data that serve as convincing proof for the already raised questions. The interview was designed to psychologist in order to explore what is Aphasia. Whereas, the questionnaire is designed to students of English for the purpose of testing the knowledge of students about this term and their attitudes toward people who suffer from Aphasia.

The interview's objective is to gain better understanding of the term aphasia. For conducting the actual investigation, we have adopted the questionnaire for students of English. This chapter also discusses the recommendation and suggestions of the research work.

3.1 Discussion of results and findings

In this section the researcher uses the research questions as a structure for the discussion. The discussion of the findings in chapter three starts with the main research questions, which is:

What challenges do patients with Aphasia face when treating them by a psychologist and how they overcome them?

Followed by the objectives of the study:

1. psychologist understanding of aphasia.
2. The methods of treating used by the therapists when curing persons with aphasia.
3. The results of the therapy for patients with aphasia and brain dysfunction.

Finally, the informal talks with the students are discussed in this chapter.

Data were collected using interview and questionnaire methods. In presenting data, precise statements from the informants are used to maintain the originality of the information collected. Discussion of the findings are presented in relation to the data analysis (chapter two).

3.1.1 Discussion of the interview results

The discussion of the interview results is based on the data gained from the psychologist and her notes about aphasia and aphasic person.

A.1 - Challenges of treatment

Many challenges were identified in this study regarding the curing of patients with aphasia.

a- The physical challenges

the physical challenges were amongst the challenges that were explained by the informant. This challenges includes the problems of vision, movement and balance. The stroke causes weakness or paralysis which make the patient enable to response to the psychological therapy. The informant revealed that before starting in the treatment, the patient should be recuperating his/her health. Then, start with the psychological therapy.

b- difficulty of communication

The difficulty in communication is the main problem that face the patient with aphasia and the therapist. The patient has difficulty in speech and language in itself. He/she was unable to communicate with the therapist, also he/she has difficulty in understanding. The informant revealed that the patient is enable to understand the speech of the therapist and he/she also enable to produce correct speech. That make a great problem especially to the psychologist, so the treatment should start from the begging i.e. the therapist should help the patient to restart the acquisition of the language.

c- The depression

The finding further revealed that the stroke also caused the impact in the emotion. The patient after the stroke felt with lack of self-confidence, weakness and that product the depression. However, this problem of emotion sometimes leads to the failure of the therapy, because the patient does not response to the treatment, which make the therapy take more time.

The informant expose that the best way of treatment starts from the psychological side after the physical one of course. The aim behind that is to prepare the patient psychologically in order to response to the other therapies. The psychologist focus on develop the self-confidence of the patient and his/her emotion after the stroke far from the depression which stand as barrier to the treatment.

A.2 - How therapists and patient overcome some of the challenges

The informant revealed that many of the challenges explained above are very hard to solve, our challenge is to re-build the neural connections for the affected areas. Thus, the therapists try to overcome some of these challenges to make sure their patients are response to the treatment. For example, the question of physical problems (vision, movement and balance) refers to the doctors in the specialty according to her.

Regarding the challenges of communication and depression, she explained that the patient should be start from the beginning of the language acquisition, and this kind of therapy refers to the speech-language pathologist. Whereas, the depression, lack of self-confidence and weakness are the specialty of the psychologist. She exposes that first step of the treatment should be start from psychology after the physical one in order to prepare the patient psychologically and develop his/her abilities and psychticperson to response to the therapy and effective treatment.

The informant detects that the patient with aphasia is the responsibility of the whole. She added that the treatment of aphasic person should be include a group of therapists work together (diagnosing, treating) in order to help patient in curing.

Finally, the informant noted that Without social and familial support stroke patients suffering with aphasia often isolate themselves which fuels the fire of depression, so the family support is also key to good recovery.

B.1 - Psychologist understanding about the term aphasia

The findings showed that the informant had knowledge about patient with aphasia and that she could explains some causes of aphasia, symptoms, diagnosing, and treatment. she was able to explain the challenges they are facing (both of therapist and patient) in communication and treating the patient. However, the informant revealed that anyone can acquire aphasia, but there is special category that is apt to this kind of illness. This category is the people in their middle to late years either men or women. She exposes that aphasia caused by the damage to one or more of the language areas of the brain which is a result of the stroke. Whereas, diagnosing patient with aphasia is recognized first by the physician who treat the person for his/her brain injury. Then, he/she referred to the speech-language pathologist. The informant detect that the aphasic person will completely recover from aphasia without treatment, in contrast to other persons who need a special therapy or a group of therapist in order to treat them. (physician,

psychologist, speech-language therapist).

Finally, a number of people are not aware of one of stroke's most common and challenging consequences: aphasia, a communication disorder affecting speech, reading, writing and comprehension.

B.2 Methods and approaches used by therapists

The results revealed that the one of the most important components to stroke recovery is getting to patient early. Starting with the treatment in second or third months after the stroke make the treatment easy.

The therapists take two methods in treating patient with aphasia. The first one is improve language functions and consist of procedures in which the therapist focus on listening, speaking and writing skills. The second is communication based therapies are intended to enhance communication by any means. The therapy changes over time as the person with aphasia improves.

From the findings in chapter two, the treatment should be including a group of therapists, the physician who diagnose the patient physically, improve his/her physical capacities, then referred him/her to the psychologist who prepare his/her mental abilities, re-build the self-confidence of the patient in order to overcome his/her depression. After that the client should be referred also to the speech-language pathologist who do many exercises with the patients, including counting, going through the days of the week and the month of the year, naming objects, showing pictures and asking patient to name the items and its function. The therapy is undertaking four to five days a week for 40 minutes to one hour.

The findings also showed that the clients with aphasia has special care from the therapies because the shock of the stroke and its affect to their daily life make him feel with some of frequency and lack of confidence because they think that they cannot referred to their previous life, so these emotions is one of the main challenges that face the patient and the therapist and that is the specialty of the psychologist who is responsible to prepare the psychotic person to the therapy.

B.3 The result of the therapy to the patients

The findings indicate that the patients with aphasia improve with the treatment. But the recovery realizes by respect and follow all the steps of the therapy which explained

before. The aim of the therapy which is to re-build the identity of the clients i.e. to restart with them from the beginning by helping them to accept their actual life, and try to response to their therapists. For example, the clients should be re-built their self-confidence which is lost after the stroke, and convince with their temporary case. They can overcome that by just doing the exercises with the speech-language pathologist. Another way which make the patient with aphasia improve with the treatment is the support of his/her family. The family have a great role in the recovery of their patient by motivating him/her to follow the therapy, also the family members are encouraging the patient by simplify language and asking short, uncomplicated sentences, repeat the content words or write down key words to clarify meaning as needed. Whereas, they include the person with aphasia in the conversations or ask him/her about his/her opinion, especially regarding family matters. Another way to help the aphasic person is to encourage any type of communication, whether it is speech, gestures, or drawing and avoid correcting the individual's speech. Moreover, allow the individual plenty of time to talk, help the individual become involved outside the home. However, the patient with aphasia needs the family as well as he/she needs the therapists, in other word the members of the family is also a part of the group of the therapists, they assure the good recovery.

Finally, the patients of aphasia will be recover easily by the association of the all in the treatment whether their family, group of therapists, or the patient his/her self.

3.1.2 Discussion of the questionnaire results

As soon as the data collection was completed, the researcher collected it and started to put it in a form that would enable her to carry out an analysis and interpretation. The analysis of interpretation of the collected data involved the interview which discussed its results before and questionnaire.

In this section the researcher discusses her findings which collected and analyzed. This enhance the validity and reliability of the information determining results presented in this study.

The questionnaire involves 30 students. All of them are students of English in the university of Mostaganem. There are 17 girls and 13 boys whose participated in this investigation. The girls represent the majority (56.7%) in contrast to the boys (43.3%) but this inequalities rate of sexes do not represent any problem to the researcher.

Whereas, the students were divided into three main levels of study. The three levels of license, and the two levels of master with their different specialties. The research focus on investigate the master's students more than the others, in fact that the masters have more knowledge about language then the others in order to their levels of study, that lead to the inferiority of students of license and the majority are the master's students. However, the differences of students whether in gender or levels of study do not represent any obstruction to the investigation, the important is to test how much the learners aware about aphasia and their behavior towards clients with aphasia.

The questions of the investigation are putting in order just to prepare the informant to the main questions. The first one is concerning with the problems in using language i.e. asking the learner if he/she has problems in using language or not. There answers divided into yes/no/too much. Half of the students said that they have problems, (08) said no they have not. The rest of them expose that they have too much problems.

Whereas, in asking them which kind of problems they have in language, very few of them have others problems does not include communication and the aspects of language as the others said, as well as most of learners have problems in communicating with others and some of them in the different aspects of language.

The main questions in this investigation was started from this question: where does language live?

According the students answers, the majority of them are aware about the localization of language, they cannot distinguish between the two hemisphere and where the language live.

The questionnaire is building by the question of what is aphasia? This question aims to see the knowledge of students about aphasia. The findings showed that the half of students are know the term aphasia in contrast to the others whose ignoring this term. From that the rest of questions is based on the answers of students whose know the term aphasia.

The findings revealed that the students have no idea about aphasic person and just 3 of them known someone who has aphasia but the others no. the following question which deals with hearing someone suffer with aphasia also has the same results with the question asked above, jest very few students heard about patient with aphasia.

Another question which asked to the learners is if they read about this kind of illness in different ways (books, internet, magazines), so regarding this question, the students who

read about aphasia represent the rate of (50%) and (33.3%) do not do about it at all. Far from this questions, the researcher wants to test the reaction and behavior of students towards the aphasic person, by asking them what they will do if they face someone with aphasia. The students have the interest to meet this kind of people and they are ready to help them according to their answers. Also they want to read more about this topic in the future, they find it very interest to search about it and take more information in order to rich their knowledge. The last question in the questionnaire was to give the learners the occasion to ask question, put a comment, or add any information.

Finally, the participants provide this work with valid data, also they allow the researcher to collect, analyze and discuss their behavior and knowledge.

3.2 Recommendation and suggestions

In today's world, there exist several approaches that can be used to ease communicating with aphasic person. Aphasia usually as a result of stroke, the aphasic person has special care from the caregiver in order to improve the daily communication with the client of aphasia, there are many ways to help people with aphasia.

Based on the findings, the following are the recommendations that need both short and long term implementations.

A- Recommendations

Make sure you have the person attention before you start.

Keep distractions and noisy down:

- Turn of the radio and TV.
- Move to a quieter room.
- When talking with adult people who have aphasia, do not make them feel as if they are children, do not pretend to understand them if you do not.
- Make eye contact when talking to the person aphasia, avoid to shout unless the person has a hearing problem.

Asking questions so they can answer with "yes" or" no" or give clear choices for possible answers.

- Allow time for people to understand.

- You can encourage the person with aphasia to use other ways to communicate such as: pointing, hand gestures, drawings.

Family members also can help the person with aphasia develop new skills to compensate for the communication problems. Some suggestions include:

- Continue to talk to the member with aphasia.
- Tell the speech language pathologist about the means of communication that the family finds best.
- Involve the person in family decision making as much as possible.
- A person with aphasia who has had stroke may benefit from sessions with a speech-language pathologist. The therapist will meet regularly with the person to increase his/her ability to speak and communicate. The therapist will also teach the person ways to communicate that do not involve speech, this will help person compensate for the language difficulties.

B- Suggestions for Further research

Future research in this area should involve systematic, long-term development work across a range of sites and settings, which also allows for the examination of the impact of the innovations upon achievement. Such research is necessary if we are to advance knowledge about aphasia and communicating with aphasic person. To do this it would be important to consider teaching and learning in real settings in order to take account of the ways in which the therapists do their work in relation to the wide variety of situations they face.

It is suggested that the following areas be researched:

exploring new ways to evaluate and treat aphasia as well as to further understand the function of the brain.

Developing strategies and tool in order to ease communication, also finding new methods to collect data without the need of interviews or questionnaire.

3.3 Limitations of the study

The researcher faced some challenges while undergoing the study. The first major challenge was the fact that some of the articles that were seen and considered necessary for the study were not easily accessible.

The study was limited to a literature review study whereas the interview and questionnaire included too, then the results could be influenced from practical experiences that are different from theoretical writings.

Another limitation of the study is that almost all the articles used for the study had the same kind of investigations and related outcomes selecting the articles by relevant was not an easy task. Added to this, the complexity of constructive content analysis that was used as the only method made it more time consuming.

3.4 Conclusion

To sum up, in this section the researcher explained and described the methods used in collecting data, discussed the findings of the two methods which used in this study based on the information took from the interview and the questionnaire also the recommendation and limitation of the study was dealt with.

General conclusion

The conclusion of this study was made according to the objectives and the findings of the study. In this work the main point is to define the difficulties which face aphasic person when they lost their language due to the damage or brain injury. Through this research, we present the language disorders of aphasic persons and the different types of aphasia. Whereas the effective treatment for them.

The psychologist's interview and student's questionnaire was the main source of data analysis. The interview aims to provide the research with valid and real experiences, while the questionnaire aims to test the knowledge of students towards the term Aphasia. The two methods of analysis supply a relevant data to the study.

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Appendix 02: Interview guide

Topic:

challenges faced by psychologists when treating patients with aphasia and brain dysfunction.

The main research question:

What challenges do psychologists face when diagnosing and curing patients with aphasia and how do they overcome them?

Interview guide:

- 1- What is your name?
- 2- How old are you?
- 3- How long have you been working?
- 4- Why did you chose this work?

Research information:

- 1- What do you understand by the term aphasia?
- 2- Do you have some patients with this kind of illness?
If so:
 - A- How do you diagnose them?
- 3- Which kind of treatment do you use it with them?
- 4- Did patients improved with this treatment?
- 5- What challenges do you face when curing patient with aphasia?
- 6- How do you overcome these challenges?
- 7- What other information would you like to add concerning persons with aphasia?

Thank you for your participation.

Appendix 03:

Students questionnaire

Dear students,

This questionnaire is part of a research work, I would be grateful if you could answer the following questions by ticking (✓) the appropriate box, or by making a full statement wherever needed.

What is Aphasia?

Aphasia /fəˈkdeɪn kədrə ələ kəlɪm /is the inability to use or comprehend words, usually it is the result of brain damage.

Gender:

Male ☐

Female ☐

Level:

L (1,2,3) ☐

Master 1 ☐

Master 2 ☐

1- Do you have problems in the language?

Yes ☐ No ☐ so much ☐

2- Which kind of problems do you have?

Aspect of language ☐ Communication ☐ Others ☐

3- According to you, where does language live?

Left hemisphere ☐ Right hemisphere ☐ both ☐

4- What is aphasia?

Physical illness ☐ Communication process ☐ Brain injury ☐

5- Do you know someone who suffer from aphasia?

Yes ☐ No ☐

6- Do you heard of someone who suffer from Aphasia?

Yes ☐ No ☐

7- Do you read about Aphasia in books, internet, magazine...etc.?

Once ☐ Twice ☐ Never ☐

8- If you face someone who has aphasia what do you do?

Leave him/her ☐ Help him/her ☐ No idea ☐

9- Do you want to reach your knowledge about the term aphasia in the future?

May be ☐ of course ☐ never ☐

10- If you have something to say or a comment please add it.

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Appendix 01

دليل التحوار

الموضوع

التحديات التي تواجه الأطباء النفسانيين أثناء علاج مرضى فقدان القدرة على الكلام وإلحاق الوظيفي للدماغ.

أهم موضوع البحث

ما هي التحديات التي تواجه الطبيب النفسي أثناء كشف وعلاج مرضى فقدان القدرة على الكلام وكيف يمكنهم تخطي تلك الصعوبات؟

معلومات شخصية

- 1- ما هو اسمك؟
- 2- كم يبلغ عمرك؟
- 3- من ذمتي وانت تعمل؟
- 4- لماذا اخترت هذا العمل؟

أسئلة حول البحث

- 1- ما هو مفهومك حول مصطلح فقدان القدرة على الكلام؟
- 2- هل لديك مرضى الذين يعانون من هذه الإصابة؟ اذ نعم:
 - أ- كيف يتم الكشف عنهم؟
 - 3- ما هو نوع العلاج المستعمل معهم؟
 - 4- هل يتلقى استحسان من خلال العلاج؟
- 5- ما هي التحديات التي تواجهكم أثناء رعاية مريض بفقدان القدرة على الكلام؟
- 6- كيف يمكنكم تخطي تلك الصعوبات؟
- 7- ما هي المعلومات الإضافية التي ترغب في اضافتها والمتعلقة بالشخص المصاب بفقدان القدرة على الكلام.

شكرا لك على المشاركة