INTRODUCING THE MIND MAP TECHNIQUE TO PROMOTE LESSON SUMMARIZING IN EFL INSTRUCTION.

Case Study of First Year LMD Student of the English Language at Mohamed Khieder University of Biskra.

Dissertation submitted in partial fulfillment of the requirement for the Master Degree in Sciences of the Languages

Submitted by: supervised by:

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Dedication

"اللهم لك الحمد حتى ترضى و لك الحمد إذا رضيت و لك الحمد بعد الرضى"

This work is for:

-The PERSON without whom my life would not be the same.

-Syria

-My country ALGERIA

Abstract

This study aims to raise awareness about one of the up-to-date tools in the realm of education; the mind map. The present research focuses on assessing the feasibility and the applicability of the mind map technique as an effective tool for summarizing, understanding, and recalling information. In conducting this research, a qualitative quantitative study was applied. A group of 20 students attended two workshops on the mind map technique. The participants practiced and mastered the technique during the two workshops; therefore, they were asked to apply it in summarizing their lessons as a preparation for their exams. After the final interview, we found that the percentage of information recalled increased and the participants' achievement marks improved. Hence, the mind map technique is found to be an effective tool for lesson summarizing.

List of Abbreviation

M.M: Mind Map

List of Tables

1. The Experimental Workshops' Results.

2. The Use of the Mind Map Technique.

3. The Percentage of Recalling Information from a Mind Mapped Lesson.

4. The Modules in which Mind Maps Are Used.

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Part Two: Field Work

General Introduction

1. Introduction

In the field of teaching and learning, it is all about transmitting and receiving information; the journey of the information from the teacher to the learners' minds can be difficult, rigid, lacks entertainment, and to some extent effective. At the same time, it can be more effective, easier, and more enjoyable. It depends only on the understanding of how the brain works, and using the methods and techniques which help investing the brain's capacities in the most effective ways. The main language of the brain is neither the spoken nor the written words; the brain works by using all the senses and thus creating associations between images, colours, key words and ideas (buzan, 2011). The traditional way of teaching and learning depends on using a monotonous method in which one colour is used, usually the blue, and words are used in a linear way. Consequently, colours, images, symbols and numbers are rarely used; and the brain's capacities are not invested. In this research we aim to give an overview on the brain; the different parts which consists it; and the functions of each part. Then, we will introduce the technique of mind mapping; a brain-friendly tool for transmitting and perceiving information.

2. Statement of the Purpose

The purpose of this study is to investigate the feasibility and the applicability of the mind mapping technique as an effective tool for delivering, receiving, understanding, and recalling the information.

3. Significance of the Study

Unfortunately, most learners start directly in the process of learning without learning how to learn, nor learning about the responsible number one of the learning process; this thing

called " the brain". Similarly, a great number of teachers are not acquainted with the up-to-date techniques of transmitting information in a much effective, easier, and enjoyable way.

We should all know that the brain language is not Arabic, nor English; the brain language consists of two things: imagination, and association, (Buzan, 2011) and both of them can be triggered by key images, key words, colours, different shapes and different symbols. This work presents the mind map technique which uses all the previous triggers in order to deliver the information to the brain in a brain-friendly way. This research needs to be conducted for two reasons: first, most of the time lessons are presented in a crammed and doll way that hinders the learners' willingness to learn; especially, in courses such as linguistics, language acquisition, and methodology; second, students are not equipped with the needed techniques and strategies that help them face this huge stream of information.

4. Hypotheses

The main objective of our research is to test the applicability of the mind map technique as a useful and effective technique for both teachers and learners; accordingly, two main hypotheses are formulated:

1. If teachers and students use the mind mapping, the effectiveness of delivering, receiving understanding and recalling the information will increase.

2. If the mind map is not used, learners' level of improvement will suffer from stagnation.

5. Research Questions

This research tries to answer three main questions:

First, how does the brain work?

Second, how to use mind maps in lesson summarizing?

Finally, and most importantly, is the mind map technique the best tool for lesson summarizing, lesson understanding and remembering?

6. Research Methodology

6.1. Method

We opted for a qualitative quantitative method of research in which we designed two workshops and an interview. The two workshops provided the participants with the mind map technique; the participants were able to practice and master this technique in lesson summarizing. The interview aimed to test the participants' level of improvement in terms of their marks.

6.2. Population and Sampling

In the present work, 20 master one students of the English language choose willingly to participate in this research. This sample of 20 students represents 11, 36% of the whole population. First of all, we took participants' previous achievements marks; second, went through the mind maps workshops where participants mastered and applied the mind map technique in summarizing their lessons. Finally, we interviewed the participants to see the level of improvement in terms of participants' achievements marks.

7. Research Tools

The main objective of this work is to test the applicability of the mind map technique in summarizing lessons; accordingly, we have chosen the experimental method by designing two workshops in which participants have been trained about the mind map technique. After the workshops, participants started preparing for their exams by applying the technique in summarizing their lessons. Eventually, we conducted an interview in which we asked the participants about their marks. The interview aimed to compare and contrast participants' marks before and after applying the mind map technique.

8. Limitation

This work was conducted with the first year master students of the English language students; accordingly, this work is limited to the English language teaching settings.

Structure of the Study

In order for us to accomplish our objective, this work has been arranged in three main chapters. The first chapter, introduction to mind maps, paves the way to the mind map technique by offering a journey into the human brain; it introduces the brain, the brain cell, and the two hemispheres. Furthermore, it defines the language of the brain, and it explains radiant thinking. In addition, this chapter gives a quick look on the mind map by defining it and introducing its founder. The chapter concludes by the story of the mind map and its benefits.

The second chapter, making mind maps, digs deeper into the mind mapping technique by providing the foundations that enables the practical application of the technique. It begins by introducing the mind map tools kit; then, it provides the five steps and the guiding principles of mind mapping. The chapter ends by giving an overview on the mind map uses.

The final chapter, practical field work, applies the mind map technique in a specific domain which is English language teaching. This chapter aims to measure participants' level of improvement after applying the technique. The application of the technique was through two workshops and an interview. The chapter opens by describing the two workshops; then, it gives the analysis of the workshops' results. This chapter concludes by showing the findings and offering practical recommendations.

Part One: General Overview

on the Related Literature

Chapter one

Introduction to mind maps

Preview:

"Education is what remains after one has forgotten

what one has learned in school."

.

Albert Einstein

The Mind Map of Chapter One

Chapter 1

Mind Maps Intro

All Cortical Skills

Brain Lge

Radiant Thinking

Time Saver

It Is a Picture

Advantages

Story

Founder

M.M ?

Mental Literacy

Radiant Thinking

Brain's Lge

2 Hemispheres

Imagination

Association

Brain intro

4 Lobes

Cerebellum

Brain Stem

Frontal

Templo

Parietal

Occiptal
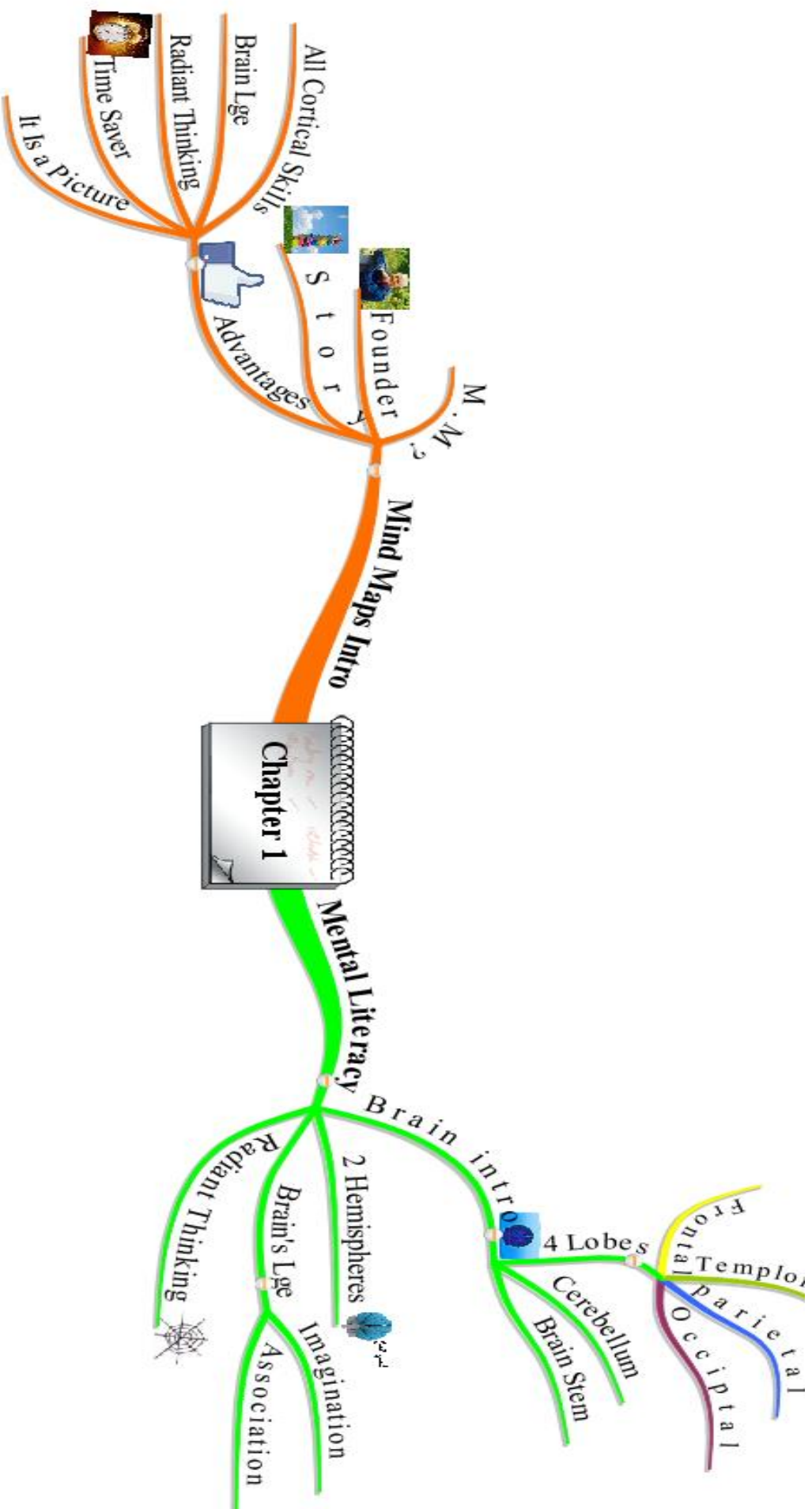
Chapter One

INTRODUCTION TO MIND MAPS.

INTRODUCTION

Most of the people start learning directly without learning how to learn and without learning about the learning machine which is the brain. This chapter offers a journey into the brain by introducing the physiology of the brain and the functions of its parts; also, the chapter gives an introduction to the technique of Mind Mapping and explains its advantages.

1.1. Mental Literacy

Normal literacy is the knowledge of the alphabet of letters and how one can juggle and combine them in different ways producing words, sentences, books, conversations and so on; mental literacy is the ability to juggle with the two alphabets of the brain, one is the physical alphabet which deals with the construction of the brain, the left and the right sides of the brain, and the brain cell; the second is the alphabet of its functions like perception, memory, creativity and so forth. A mentally literate individual is the one who knows the two alphabets of the brain, and he or she uses it for his or her advantage.

1.1.1. Introduction to the Brain

The human brain is the most sophisticated object in the known universe. It is incredibly complex; it controls everything our body does from coordinating our movements and our speech, to storing our memories and keeping our hearts beating. The human brain weights about one kilogram and a half, and it is fed by a network of blood vessels catering oxygen and nutrients to the million-million workers; the brain cells. It works around the clock and it generates more electrical impulses each day than all the mobile phones in the world; (Harrison and Hobbs, 2010, p. 12). During the course of a day the brain uses the amount of energy contained in small chocolate bar, around 230 calories. Even though these facts might make the brain sound efficient, in relative terms, it is an energy hog. The brain accounts for

merely 2 percent of the body's weight, but consumes 20 percent of the body's total energy; the brain requires a tenth of a calorie per minute merely to survive.

The brain can be divided into two hemispheres: the left and the right which are linked by a central processing unit called the corpus callosum. Each half is split into four more compartments: at the very back is the occipital lobe which handles the visual sense. At the top of the brain are the parietal lobes which help with tasks such as calculation and spelling, and they handle sensations such as touch, body awareness, pain and pressure. Just behind each ear there are the temporal lobes, which are involved in the organization of sound, memory, speech and emotional responses. Behind the forehead there are the frontal lobes, which are considered the home of our personality; the uppermost part of the frontal lobes is involved in solving problems, activating spontaneous responses, retrieving memories and applying judgments. It also modulates our social and sexual behaviour. (Harrison, & Hobbs, 2010, p. 14)

Inside the ridges and grooves of each hemisphere lie a set of structures forming what is known as the limbic system. This system includes the amygdalea, hypothalamus, thalamus, and hippocampus. These parts activate our emotions, appetites, instincts, pain and pleasure sensations, and other drives that are essential to survival. The amygdale activates emotional responses, such as fear or euphoria, while the hypothalamus is the control centre for brain-to-body, body-to-brain messages, causing, for example, blood pressure to rise when one is agitated. The thalamus receives auditory and visual sensory signals and relays them to the outer layer of the brain, known as the cerebral cortex, where the information is processed. The hippocampus is crucial to learning and remembering spatial layouts. At the very back of the brain lies the cerebellum which controls movements, posture and balance; finally, there is the brain stem which controls our vital living functions such as: breathing, heartbeat, and blood pressure.(Harrison, & Hobbs, 2010, p. 14)
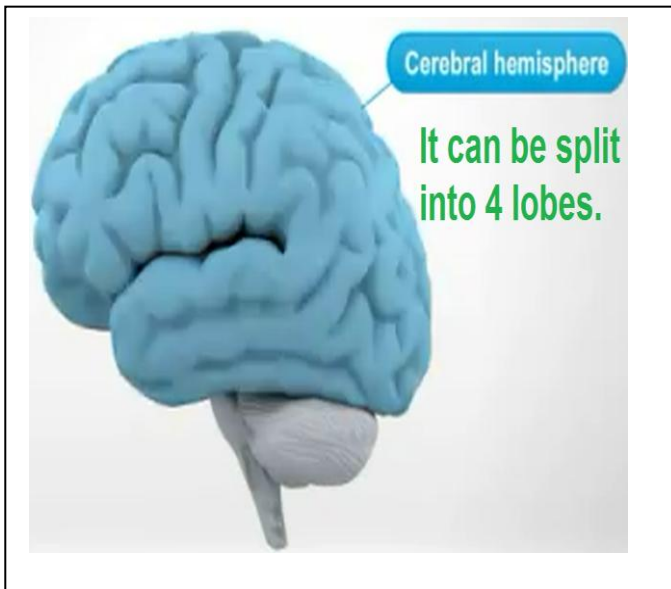
Figure 1: The Cerebral Hemisphere.

The cerebral hemisphere can be split into four different lobes. Each lobe has specific functions.

Figure 2 : The Frontal Lobe.

Behind the forehead is the frontal lobe which considered the home of a person's personality.
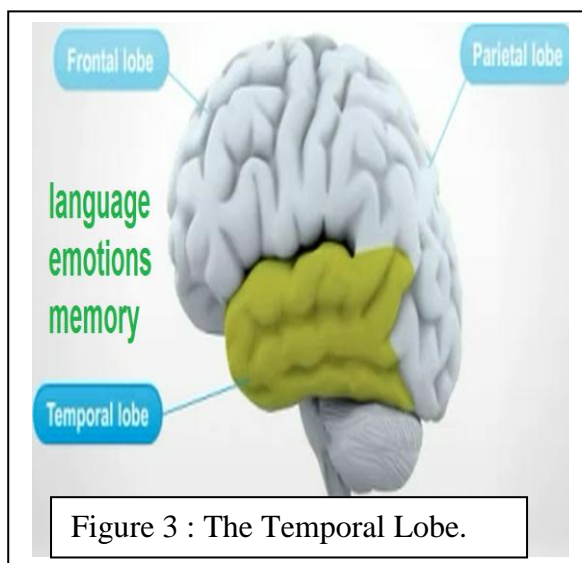
Figure 3 : The Temporal Lobe.

Just behind each ear, there is a temporal lobe which is involved in the organization of speech, memory and emotional responses.
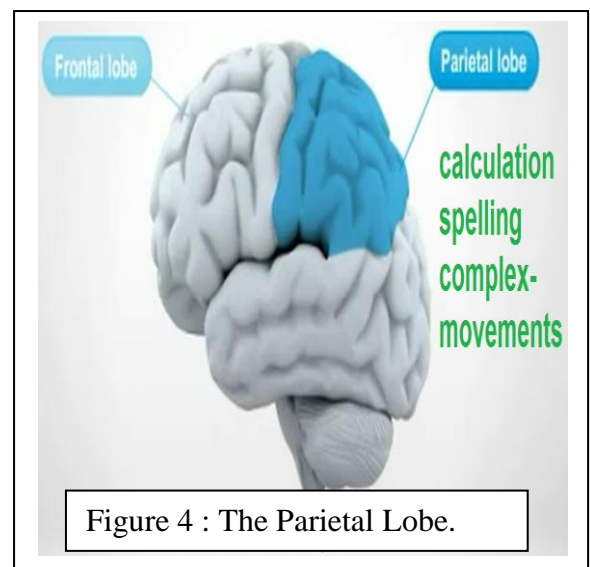
Figure 4 : The Parietal Lobe.

At the top of the brain, there is a parietal lobe which handles body awareness, calculation, and spelling.
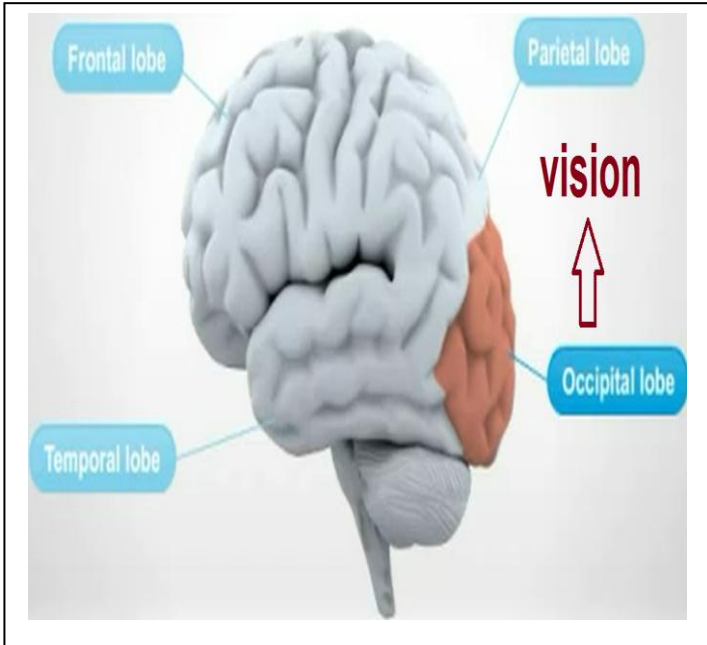
Figure 5 : The Occipital Lobe.

At the very back of the brain, there is the

occipital lobe which handles the visual

sense.

Figure 6 : The Limbic System.

Inside the ridges of each hemisphere lies a

set of structures forming what is knownas
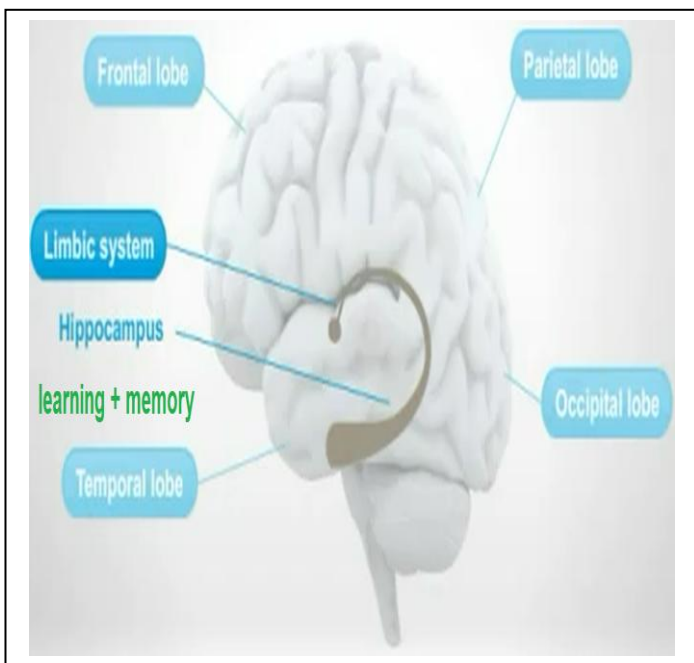
the limbic system.

Figure 7 : The Hippocampus.

At the lower part of the limbic system,

there is the hippocampus which is critical

for learning and remembering.
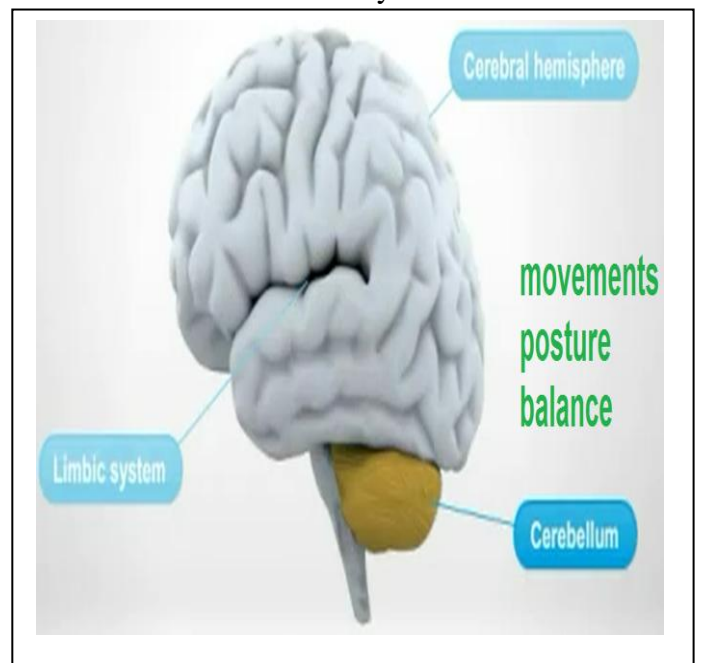
Figure 8 : The Cerebellum.

At the brain base, there is the cerebellum

which handles the body movements and

balance.

breathing
heartbeat
blood pressure

Brain stem

Figure 9 : The Brain Stem.
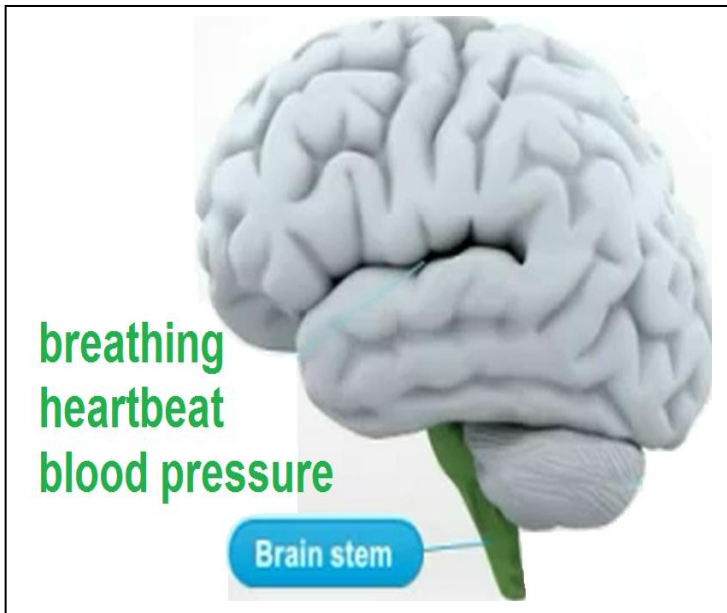
The brain stem is the part of the brain that controls peoples involuntary body functions like breathing, digestion and blood pressure.

Cerebral cortex   Frontal lobe   Corpus callosum
                                    Thalamus
Parietal lobe

Occipital lobe

Temporal lobe

Cerebellum

Hypothalamus

Amygdala

Hippocampus
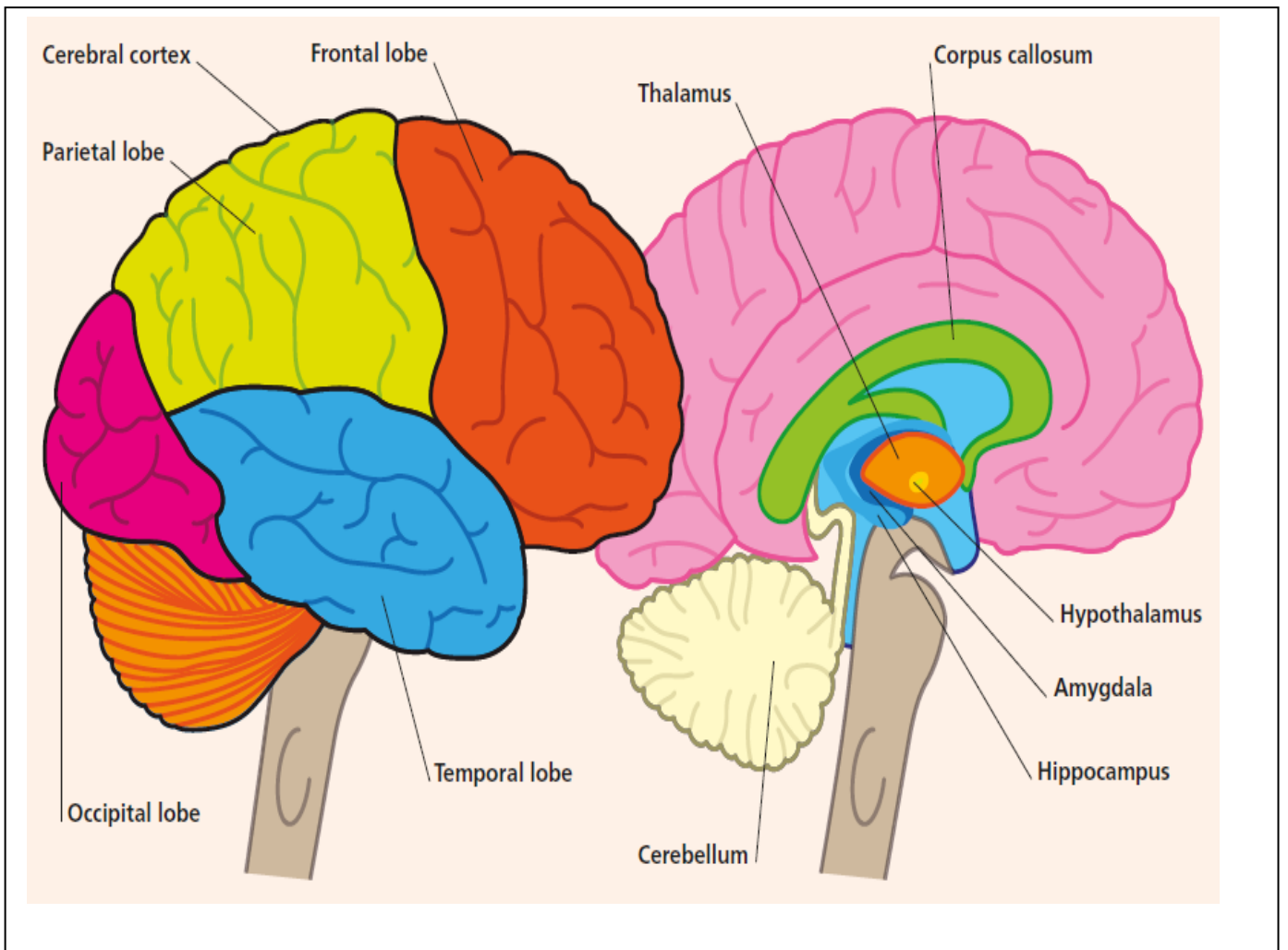
Figure 10 : The Brain.

The brain is divided into two hemispheres: the left and the right which are linked by a central processing unit called the corpus callosum. Each hemisphere is split into four lobes.

1.1.2. The Brain Cell: Neurons

Neurons are the cells in the nervous system that transmit information by electrochemical signalling; they are the core components of the brain and the spinal cord.

In each human brain there is an estimated number of million million (1000000000000) brain cells called neurons; these neurons constantly communicate with each other; they receive messages from each other as electrical pulses. These electrical pulses release chemical messengers which are the message-carriers, and they are called neurotransmitters. The brain cell or neuron is like an octopus, but with tens, hundreds, or sometimes thousands of tentacles which come out from the central body. Each tentacle is like a branch of a tree, and it is called "dendrite", and it is the receiver of information; one particular branch which is large and huge called the axon is the transmitter of information transmitted by the neuron; the axon is covered by the myelin sheath which acts as an insulator and increases the speed and efficiency of the pulses. The length of each dendrite and axon may range from a millimetre to one meter and a half (Buzan, 1994, p. 27); all along this length there are a mushroom-like ends called
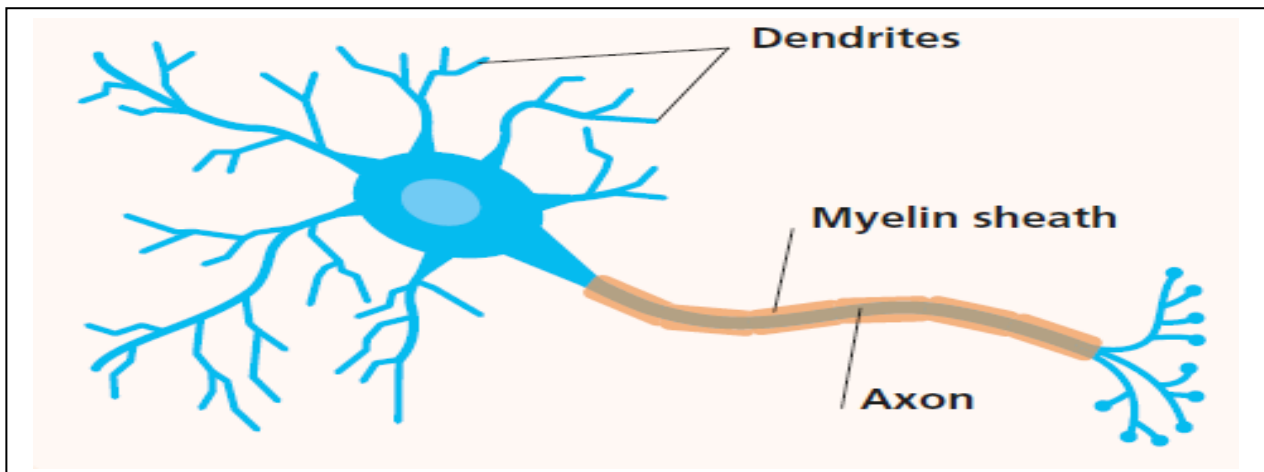
Figure 11: The Brain Cell.

The dendrites are the receivers, and the axons are the transmitters. The myelin sheath increases the speed and efficiency of the electrical pulses.
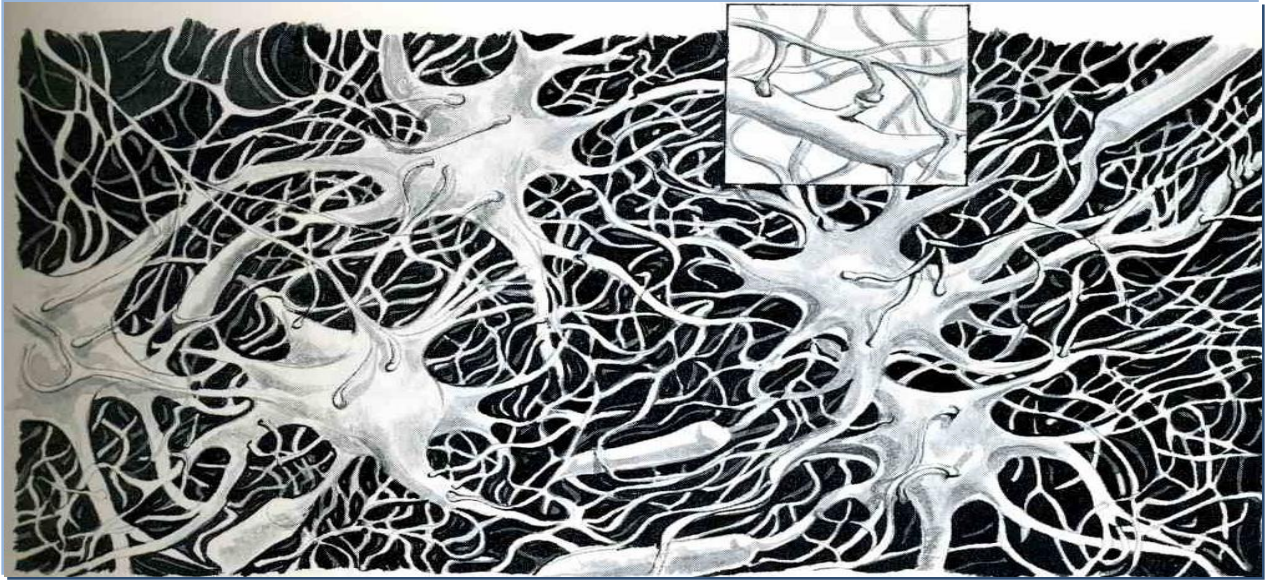
Figure 12: Five Brain Cells Demonstrating Part of the 'Neural Embraces' Throughout The Brain.

Each neuron is connected to approximately 10000 others by frond like tendrils. The neurons are not connected in reality, but they touch each other. When neurons communicate, the gaps at the touch points are filled with neurotransmitters, chemicals that carry electrical messages.

A brain cell may receive incoming pulses from hundreds of thousands of connecting points every second. In 1970, Professor Petr Kouzmich Anokhin of Moscow University, and after his 60 years investigation into the nature of the brain cell, he declared:

We can show that each of the ten billions neurons in the human brain has a possibility of connections of one with twenty-eight noughts after it! If one neuron has this quality of potential, we can hardly imagine what the whole brain can do. What it means is that the total number of possible combinations/ permutations in the brain, if written out, would be one followed by 10.5 million kilometres of noughts!

No human yet exists who can use all the potential of his brain. This is why we don't accept any pessimistic estimates of the limits of the human brain. It is unlimited. (Buzan, 1994, p. 31)

1.1.3. The Two Hemispheres

As it is mentioned above, the brain consists of two parts or hemispheres: The left hemisphere and the right hemisphere; they are also called the cerebral hemispheres.

Figure 13: The Cerebral Hemisphere.

The cerebral hemisphere consists of two

hemispheres: the right hemisphere, and the

left hemisphere.

In the late 1960s, Professor Roger Sperry was awarded the Nobel Prize for his research in which he found that the two hemispheres when given a task tend to divide the major intellectual functions between them; accordingly, the right hemisphere appeared to be dominant in the intellectual areas such as: rhythm, spatial awareness, colours, dimensions, imagination, daydreaming, and making sense of the abstract; whereas, the left hemisphere was dominant in the following intellectual activities: logic, words, numbers, linearity, analysis, lists and sequences- the so-called reasoning activities.

Left-Brain

Language
Writing
Reading
Listening
Calculation
Logic
Analysis
Sequence

Right-Brain

Creativity
Conseptual
Inovation
Idea
Image
Color
Music / Art
Dimension
Emotion
Daydreaming

connected by millions dendrites

SHORT-TERM
MEMORY

LONG-TERM
MEMORY
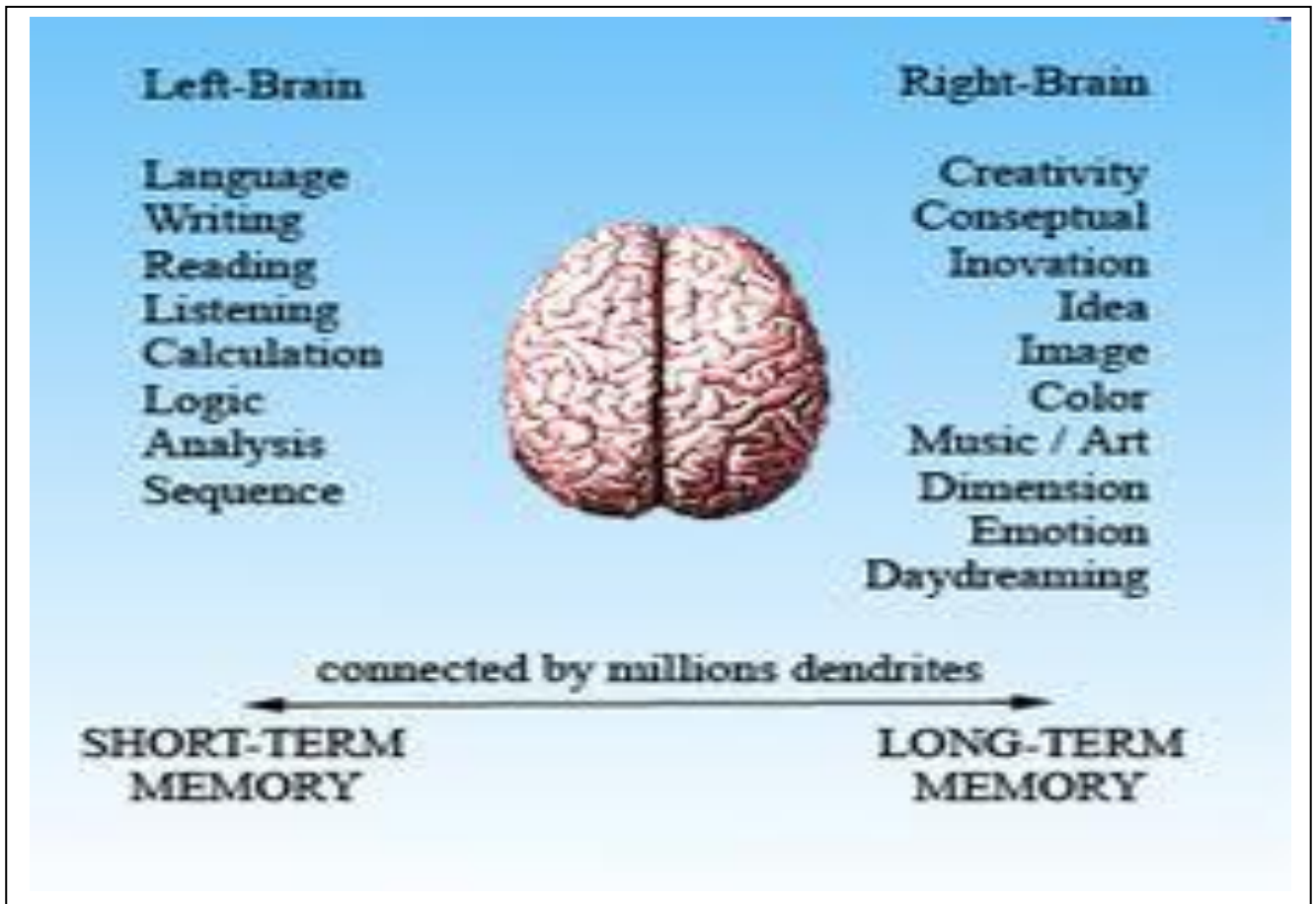
Figure 14: The Functions of the Two Hemispheres.

The left hemisphere or the left brain appeared to be dominant in the logical activities such as analysis, numbers, lists, order and sequence; whereas, the right brain appeared to be dominant in the intellectual areas that have relation with imagination, innovation, emotions and daydreaming.

In the traditional way of studying and particularly in note taking most of the students use a linear, monotonous method i.e., they use only one colour which is usually blue or black, and they use only words, lists and logic which means that they use only their left hemisphere. And half a brain is a terrible thing to waste.
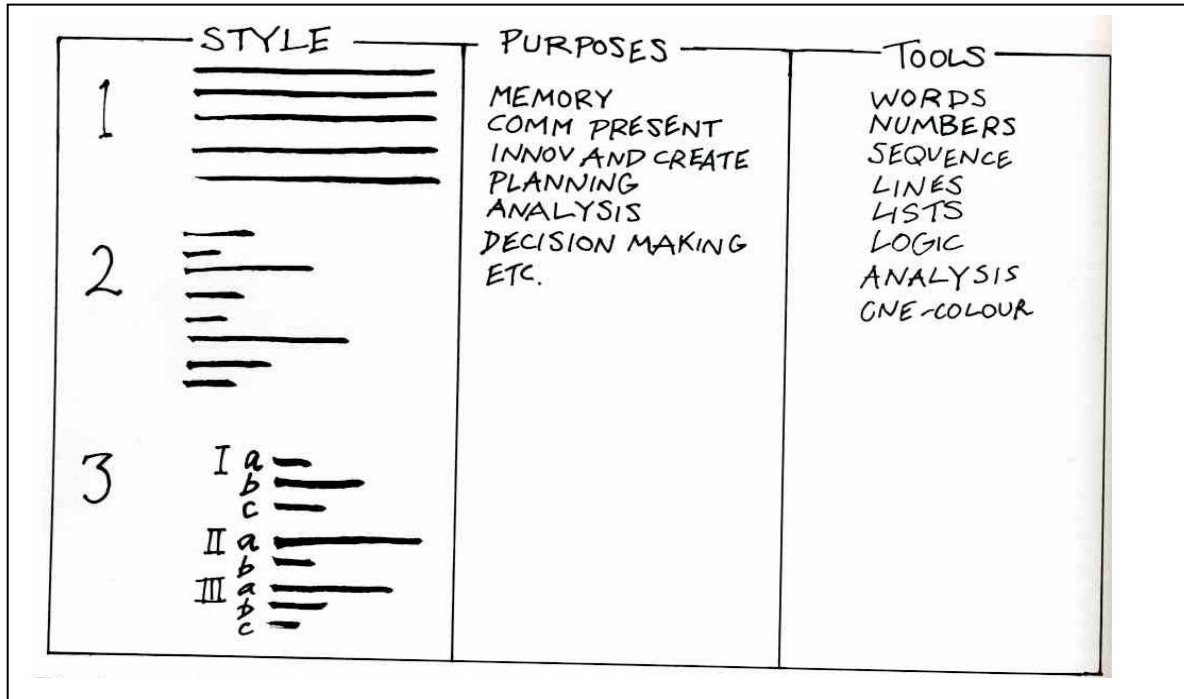
Figure 15: Traditional Note-Taking

The Three Major Note-Taking Styles Used by 95 Percent of Note-Takers and Note-Makers in All Schools and Professions Around The World, Regardless of Language or Nationality. (Buzan, 1994, p. 44)

1.1.4. The language of the brain

The main language of the brain is neither the spoken nor the written words; the brain works by using all the senses and thus creating associations between images, colours, key words and key ideas. Put in a nutshell: imagination and association. These are linked to whole-brain activity, i.e., they activate the two hemispheres. Imagination and association are stimulated mainly when using: senses, exaggeration, rhythm and movement, colour, laughter, pictures and images, numbers, words, symbols, order, and pattern. The mind map uses all of these. (Buzan, 2006, p.143)

Another thing about the brain is that it thinks and remembers in images unlike what most people believe that the brain thinks linguistically. If you think of any piece of information or anything; take for example: a car, you will directly imagine a picture of a car with a certain colour and shape.

1.1.5. Radiant Thinking

As we have mentioned above, the brain does not think in a linguistic, linear, and monotonous way. Rather it thinks and remembers information in multiple directions simultaneously starting from a central idea or a key word. And this is called Radiant Thinking. Radiant Thinking from the word 'to radiate' meaning to spread or move in directions from a given centre; this refers to the associative thought processes that proceed from or connect to a central point. In the brain, thoughts radiate outward from a key word like the branches of a tree or the blood vessels that emanate from the heart. (Buzan, 2002, p.32)

What happens inside the brain when a new piece of information enters (from watching TV, smelling a flower, tasting milk or anything else) is both simple and amazingly complex; Each bit of information, every sensation, memory or thought including every word, number, code, food, fragrance, line, colour, image, beat, note and texture can be represented as a central sphere from which radiate tens, hundreds, thousands, or millions of hooks; each hook represents an association, and each association has its infinite array of links. (Buzan, 1994, p. 53)

Figure 16: Graphic Representation of a Single Unit of Information in the Brain.

Each single unit of information relates to other units of information from the same kind, type or genre. Accordingly, from a single unit of information, other units of information spring out.

1.2. Introduction to the Mind Map

This section gives an overview on mind maps through giving a definition to the concept, knowing about the founder, getting acquainted with the benefits of mind mapping.

1.2.1. What Is a Mind Map

Tony Buzan, the founder of the mind map technique, defines the mind map as a thinking tool that reflects externally what goes on inside your head; he adds: "the mind map is like a Swiss army knife for the brain, anything I want to do in terms of thinking, contemplation, cognition, remembering, or creating, the mind map is the ideal tool for that."

A Mind map is a graphic, networked method of storing, organizing and prioritizing information, usually on paper, using key or trigger words and images, each of which will 'snap on' specific memories and encourage new thoughts and ideas. Each of the memory triggers in a Mind Map is a key to unlocking facts, ideas and information and, also, to realising the true potential of your amazing mind. (Buzan, 2006, p 138)

The effectiveness of the Mind Map lies in its dynamic shape and form which resembles the shape of the brain cell; accordingly, the brain will be encouraged to work in a way that is fast, efficient, and in the style which is natural. (Buzan, 2006, p 138)

The Mind Map is a technique which helps in getting information into and out of the brain; it is made up of words, colours, lines and pictures. It helps in coming up with new ideas, remembering better, save time and energy, organizing thinking and information, and enjoying the task of learning.

1.2.2. The Founder

Tony Buzan is a researcher, educator, advisor, and the author of the million-copy bestsellers: Use Both Sides of Your Brain, Use Your Head and The Mind Map Book. He lectures all over the world in subjects such as; the brain, memory, intelligence, speed reading, and learning and teaching. His work has been published in more than 100 countries and

translated into over 30 languages. He advises multi-national companies, leading businesses, governments, and international Olympic athletes.

Figure 17: Tony Buzan The Founder of Mind Maps.

1.2.3. The Story of Mind Maps

Tony Buzan says: "I invented Mind Maps out of desperation move which led to inspiration, and the desperation was me in school, and I was studying and I was taking notes, and I was being very contentious, and I begun to think these notes don't actually work, but I wasn't sure why, and the more I analyse them the more they didn't work. And as the exam came, out of desperation I would hardly mark, underline the key ideas, and I calculated it, and they were only ten per cent of the entire volume of all the notes that I was taking; so what I had thought was the rescue operation: my notes, which were actually the lead weights that were drugging me down, and so I extracted those ten per cent of the key words, put them on separate sheets realise that some of them were key key-words, and some of them were key key key-words, so I underlined and then boxed and then added dimension and then added

different colours and low and behold before me, grow on magically, this thing is called the Mind Map. It allowed me to remember better, to create better, to organize better, to spend far less time with far better results."

1.2.4. Advantages of Mind Maps

In addition to the shape of a Mind Map which looks like the brain cell, the Mind Map helps the brain use all the range of cortical skills that we have spoken about above, since we use in it colours, words, numbers, lists, dimensions, logic and so forth.

Another thing about the Mind Map is that it utilises the human language that everyone speaks regardless of his or her nationality; this language is imagination and association; if you hear or read about anything, you will use inevitably imagination and association; in Mind Maps clear and appropriate associations are made between key words. Furthermore, 'the Mind Map uses hierarchy and categorization which put the primary ideas in place so that the secondary and tertiary ideas can follow quickly and easily to facilitate a harmonious thought structure.'(Buzan, 1994, p.88)

In note taking, Mind Maps help saving from 50 to 95 per cent of the usual time by noting only relevant words; it saves also more than 90 per cent of total time when reviewing Mind Map notes since one does not have to look for key words amongst unnecessary verbiage ; accordingly the concentration on real issues is enhanced. One more thing is that the mind thinks in images, and the Mind Map is an image, so the brain finds it easier to accept, remember and recall visually stimulating, multi-coloured and multi-dimensional picture which is a Mind Map.

CONCLUSION

Knowledge about the brain, its physiology and its functions, undoubtedly paves the way for the individual to better use his or her brain. Then, the Mind Map presents itself as the suitable tool which enables the individual to invest his intellectual capital in a much easier,

and a far more productive way. Making a Mind Map requires the knowledge of the different

steps and the different principals of Mind Mapping.

Chapter two
Making Mind Maps

Preview

"If you can't explain it to a six year old, you

don't understand it yourself."

Albert Einstein

The Mind Map of Chapter Two
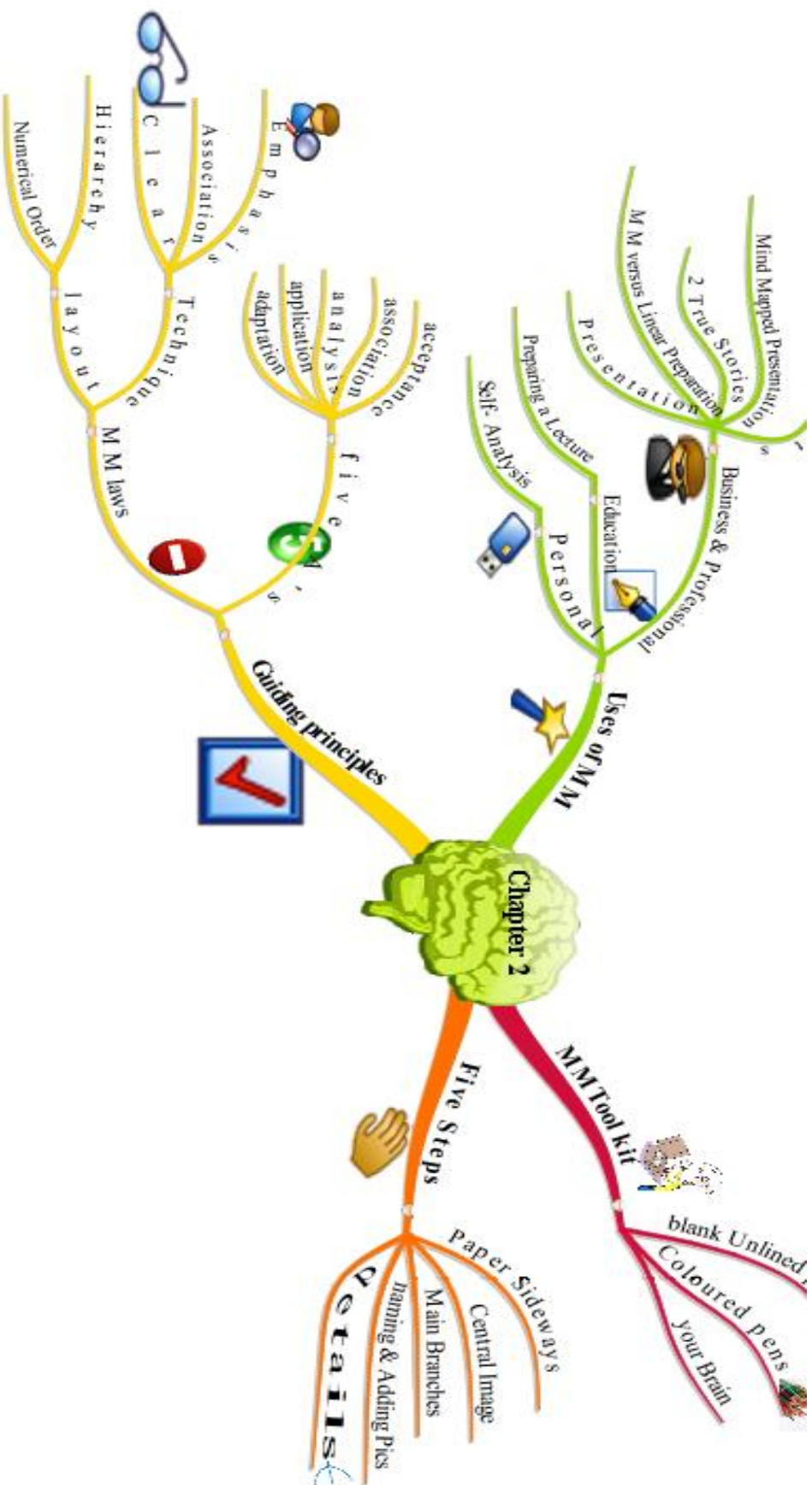
Chapter Two

MAKING MIND MAPS

INTRODUCTION

After having an overview on the brain, its parts and its functions, and after introducing the Mind Map technique and its benefits, it is time now to get into details about Mind Mapping. The second chapter provides the fundamental guidelines of Mind Mapping starting from the Mind Map tool kit to the five steps of Mind Mapping to the guiding principles. Also, this chapter offers the different uses of Mind Maps.

2.1. The Mind Map Tool Kit

The Mind Map tool kit is very simple that virtually everyone can have or more precisely has. It is meant to enable the mind mapper to create an effective Mind Map; this tool kit consists of three main components: a paper which must be blank and unlined in order for the brain to be free to think in a non-linear, uninhibited and creative way; a range of multi-coloured pens in fine, medium and highlighter thickness. The selection of colours is very important because colour stimulates the brain and activates creativity and visual memory. Colour also allows the mind mapper to introduce structure, weight and emphasis to the Mind Map; and finally, a brain.

The tool kit consists of:

- Blank, unlined papers;

- A range of multi-coloured pens;

- A brain. (Buzan, 2003, p. 11)
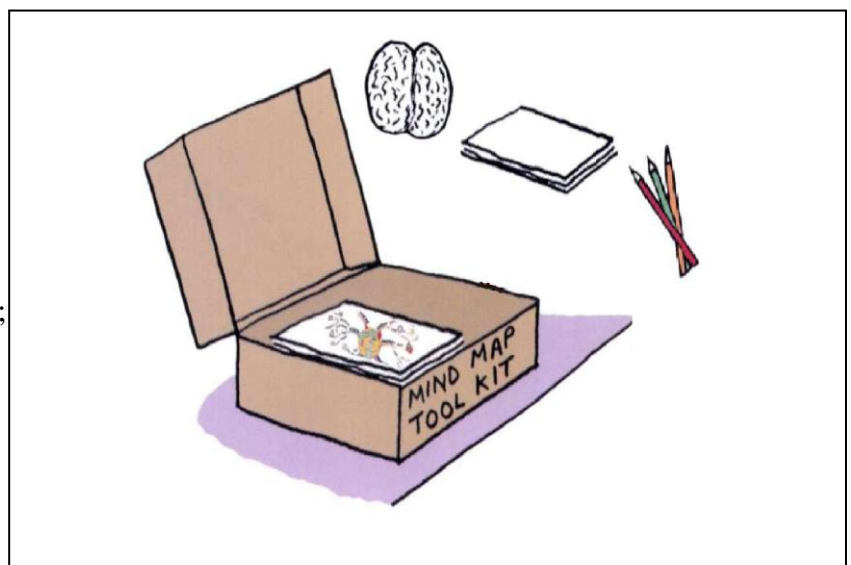
Figure 18: The Mind Map Tool Kit.

2.2. The Five Steps

Making a Mind Map is simple; it requires five easy steps which are the following: first, the mind mapper should bring a blank unlined paper and place it sideways; second, a picture is drawn in the middle of the paper; it should be in the middle for two reasons: one, it reflects the nature of the brain's thinking process, and second, it allows thoughts and ideas to flow freely in space. The picture summarizes and represents the main subject, and it should contain at least three colours, and as the old adage says: "a picture is worth a thousand words." Three, the mind mapper would draw some thick curved, connected lines coming away from the central picture; each line represents a main idea in the subject, these branches are considered the central branches of the Mind Map. Four, the mind mapper will name each of these ideas represented by the branches, and where possible a little picture of each is drawn- this uses both sides of the brain. Words are underlined throughout a Mind map; this is because they are key words, and the underlining, as in normal notes, shows the importance of these words. Five, from each of these branches i.e., ideas, other connected lines can be drawn; they spread like the branches of a tree. The mind mapper would add thoughts on each of these ideas. These additional branches represents the details. (Buzan, 2003, p. 10)These five steps are summarized in an example below:
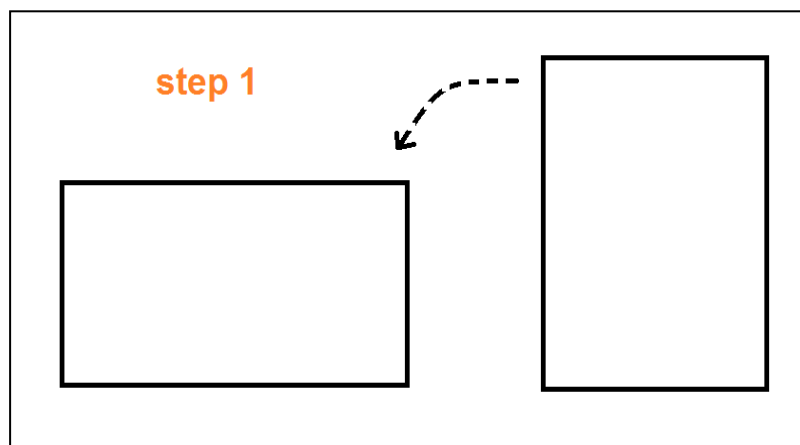
Figure 19: The First Step

Figure 20: The Second Step

Make a Central Image with at least three colours.
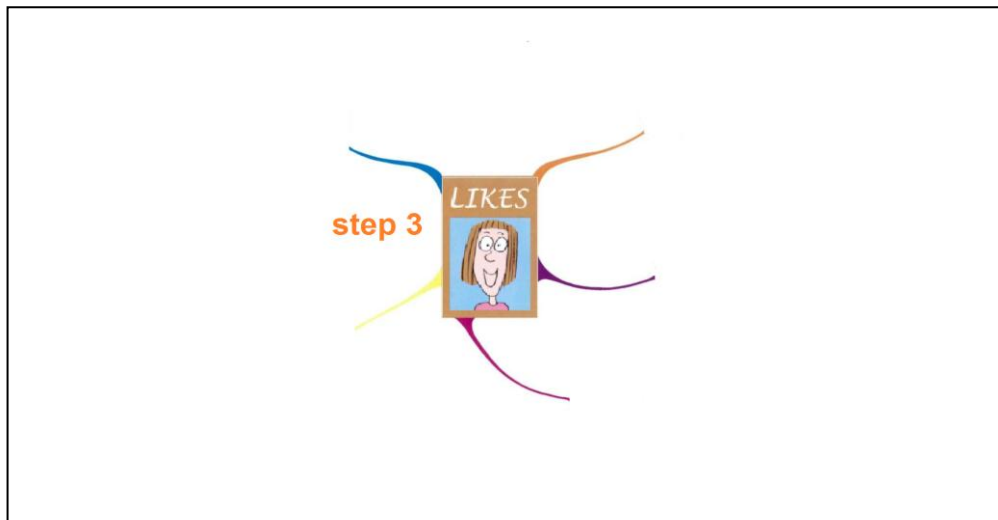
Figure 21: The Third Step.

Add the Main Branches.
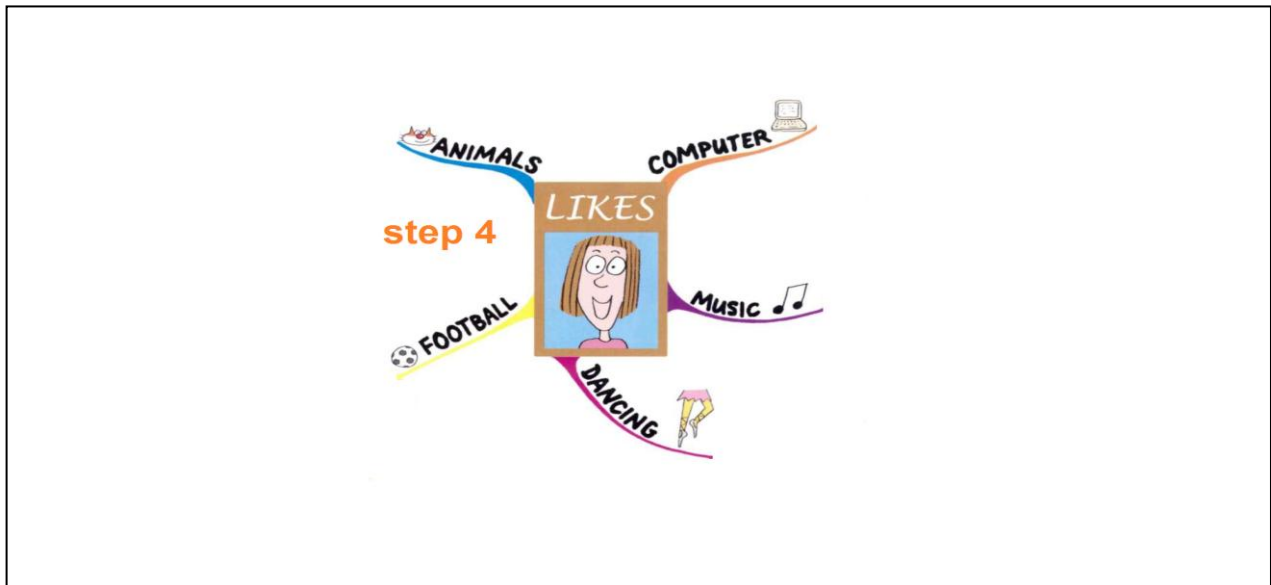
Figure 22: The Fourth Step.

Naming the Main Branches, and

Adding Pictures Where Possible
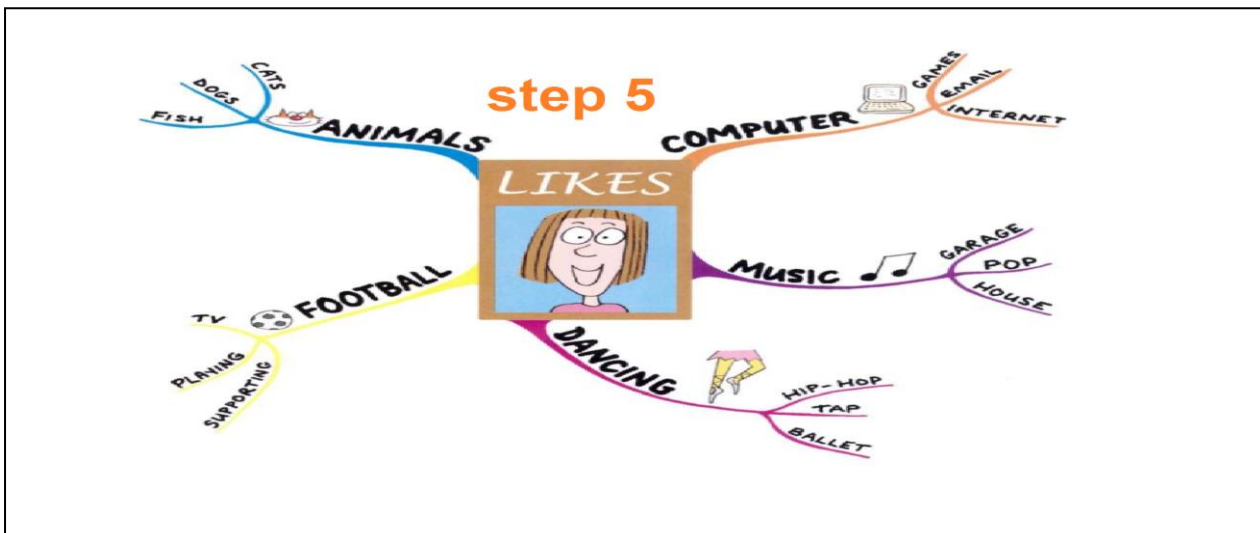
Figure 23: The Fifth Step.

2.3. The Guiding Principles
Add Details by Adding Sub-Branches. (Buzan, 2003, p. 12)

Making a Mind Map requires the knowledge of the different rules and principles of

mind mapping. This knowledge enables the mind mapper to produce a Mind map which is

effective for creativity, memory and recall. This section provides the guiding principles which are divided into two headings: the five A,s, and the Mind Map laws.

2.3.1. The Five "A"s

The initial principle of mind mapping involves following the instruction of the five "A"s which are: Acceptance, Association, Analysis, Application, and Adaptation. These five "A"s are closely related and they are like stages that should be taken by the mind mapper. (Buzan, 2004, p. 93)

Acceptance: when starting a mind map, the mind mapper should set aside any preconceptions about his or her mental limitations, and look objectively at the issue. After that, the mind mapper should accept and follow the steps of the Mind Map which are: first, write down the problem or goal in the middle of the page and circle it, second, draw the main branches from the circle in the centre, an example of that is drawing eight lines and writing on them key headings, such as: 1. Why? 2. How? 3. Where? 4. When? 5. What (to use)? 6. Who (can help)? 7. Advantages? 8. Disadvantages? ; Finally, add details.

Association: when writing a Mind Map, the mind mapper should think of everything he or she can associate with any of the headings and write them along the branches. Then different ideas will pop up and they should be put where they fit best; here, different coloured pens are recommended for the new branches and sub-branches. Soon, the brain will make connections between all the written ideas; accordingly, the memorization and recall of those ideas will be easy.

Analysis: at this stage, the mind mapper should analyse what he or she has drawn until now asking analytical questions such as: Which branches contain more information? Where are the uncertainties? Are all the information needed present in the Mind Map? What can I

add? And what can I omit? The mind mapping process will have helped the mind mapper generate and crystallize his or her ideas.

Application: it refers to the continued practice of mind mapping using the different laws and principles until mastering the technique.

Adaptation: it is the final stage, and it refers to the ongoing development of one's mind mapping skills. Using mind maps on frequent basis will lead the mind mapper to realize that there are no limitations to the variety of ways he or she can use mind maps, because there are no limits to the number of connections which the brain can make; here, the mind mapper will adapt and personalize the tool to suit his or her needs. (Harrison and Hobbs, 2010, p. 63)

2.3.2. The Mind Map Laws

The Mind Map laws are intended to increase rather than decrease and restrict the mental freedom. In this context, it is very important not to confuse order with rigidity, and freedom with chaos. All too often, order is negatively perceived as rigid and restrictive. And freedom is mistaken for chaos and lack of structure. In fact, true mental freedom is the ability to create order from chaos, and the Mind Map laws will help the mind mapper to do exactly this. These laws are divided into the laws of technique, and the laws of layout.

2.3.2.1. The Laws of Technique

These laws can be summarised as follow:

Use emphasis;

Use association;

Be clear;

Use Emphasis

Emphasis is one of the major factors in improving memory and creativity; and all the techniques used for emphasis can also be used for association, and vice versa. Emphasis is achieved by using the following items and techniques in the Mind Map: (Buzan, 1994, p. 97-100)

- **Always Use a Central Image**

An image automatically focuses the eye and the brain, and it triggers numerous associations between ideas, and it is an astoundingly effective memory aid. Furthermore, an image attracts and pleases the eye, and it draws the attention to itself. If a word, rather than a picture, is used as a central image, it can be made more three-dimensional by the addition of shade, multiple colours or attractive lettering.

- **Use Images throughout the Mind Map**

Using images wherever possible in the Mind Map will add more focus and make it more attractive. It will also stimulate both the right and the left hemispheres in the process of mind mapping; creating a balance between visual and linguistic cortical skills, as well as improving the visual perception.

- **Use Three or More Colours per Central Image**

Colours stimulate memory and creativity, and they add life to images and make them more attractive. Colours wake up the brain; this is in contrast to monochrome (one-colour) images, which the brain sees as monotonous, and which send it to sleep.

- **Use Dimensions in Images and Words**

Dimension will help things to stand out, and whatever stands out is more easily remembered. Thus, the most important elements in the Mind map can be emphasised by being

drawn or written in three dimensions; and this is especially effective in giving Key Words prominence.

Figure 24: Using Dimension in Mind Maps.

- **Use Variation of Printing, Line and Image.**

Varying the size of printing will introduce immediately a sense of hierarchy and give a clear message regarding the relative importance of the items listed. Expanded size adds emphasis; thereby, increasing the probability of recall.

Figure 25: Using Variation in Printing in Mind Maps.

- **Use Organized Spacing**

Organizing the look of the branches on the page increases the clarity of the Mind Map, and helps communicate the hierarchy and categorization of ideas; in addition, it makes the Mind Map easier to read, attractive to look at, and open to additions.
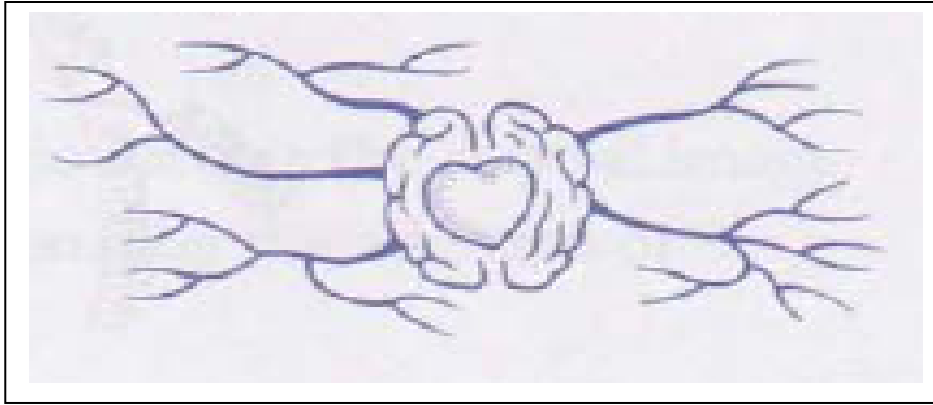
Figure 26: Using Organized Spacing in a Mind Map.

Using appropriate spacing by leaving the right amount of space around each item on the Mind Map gives order, structure, and clarity. The space between items is as important as the items themselves in communicating a message.

In Japanese flower arranging, the entire arrangement is based on the space between the flowers; likewise, in music the sound is often arranged around the silence. For example, Beethoven's famous Fifth Symphony actually starts with a rest or silent note. (Buzan, 1994, p. 100)

Figure 27: Using Appropriate Spacing in a Mind Map.

Use Association

Association is the other key element in improving memory and creativity, and it is the second half of the brain's language. The power of association can take the brain into the depth of any subject. Association is the integrating device which the brain uses to make sense of our

physical experience; it is the key to human memory and understanding. It can be achieved by using the following elements and techniques: (Buzan, 1994, p. 100- 101)

- **Use Arrows**

Arrows automatically guide the eye to connect one part of a Mind map with another, and they can be used within and across the branches. Arrows also suggest movement, and movement is a valuable aid to effective memory and recall. They can be multi-headed, and varied in size, form, and dimension, and they can point to one direction or in several directions at once. They give spatial direction to one's thoughts.

- **Use Colours**

The benefits of using colours are: first, they enhance the level of learning and remembering from 55 to 78 percent; second, they the level of comprehension up to 73 percent; third, they increase the willingness to read with 80 percent; forth, they increase the number of sales from 50 to 85 percent. (Suwidan, 2005 p. 148)

Colour is one of the most powerful tool for enhancing memory and creativity. Choosing specific colours for coding purposes will give the mind mapper faster access to the information contained in his or her Mind map and will help him or her to remember it more easily.

- **Use Codes**

Codes enable the mind mapper to make instant connections between different parts of his or her Mind Map, however far apart they may be on the page; they can also save a lot of time; for instance, the mind mapper could use a range of simple codes in all your notes to represent people, projects, elements or process which frequently recur. Codes reinforce and enhance categorization and hierarchy through the simple application of colours, symbols,

shapes and images; they can also be used to link source materials such as biographical reference to the Mind Map. Codes may take the form of ticks, crosses, circles, triangles or underlining, or they can be made more elaborate.

Be Clear

Obscurity veils perception; scribbled notes will hinder rather than help memory. While mind mapping, and if the printing is clear, and the structure is beautifully organized, then the whole Mind Map is more registerable. Furthermore is that clarity on the page encourages clarity of thought; a clear Mind Map will be more elegant, graceful, and pleasant to use. Clarity in Mind Maps can be achieved by using the following techniques: (Buzan, 1994, p. 101- 103)

- **Use Only One Key Word per Line**

Each individual word will conjure up many thousands of its own possible connotations and associations. Placing one word per line gives the mind mapper maximum opportunity to make associations for each word; in addition, every word is connected to the word or image that sits alongside it on the next line. In this way, the brain is set free and it is opened up to new thoughts.

- **Print All Words**

Printed letters have a more defined shape and therefore they are easier for the brain to 'photograph' and retain; the extra time it takes to print a word is more than made for by the advantages it creates of increased speed of association and recall. Printing also encourages brevity, and both upper and lower case letters can be used to emphasize the relative importance of words on the Mind Map.

- **Print Key Words on Lines**

The line forms a skeleton for the flesh of the word; therefore, it provides organization and neatness which improve clarity and aid recall. In order for the brain to make connections with all parts of the Mind map, key words need to be connected to the lines; these lines are very important in the Mind Map since they connect the individual key words together.

- **Make Line Length Equal to Word Length**

This law makes it easier to place words near each other, thus facilitating association; furthermore, the space saved enables the mind mapper to include more information in his or her Mind map. In addition, if words and their lines are of equal length, they will look more effective and they will connect more easily to the words and images on either side of them.

- **Connect Lines to Other Lines and Major Branches to the Central Image**

Connecting the lines on the Mind Map will help the mind mapper to connect the thoughts in his or her mind; those lines can be transformed into arrows, curves, loops, circles, ovals, triangles or any other shape the mind mapper chooses.

- **Make the Central Lines Thicker and Keep Them Curved**

Thickening up all central lines will send the message to the mind mùapper's brain that the ideas on these lines are the most important. If the mind mapper is uncertain which ideas are going to be the most important, he or she can thicken the lines once he or she has finished. The mind map should be curvilinear; therefore, the branches are always curved. And the reason is that the nature is curvilinear; also, if all the branches are straight, they are literally rigid, similar, and therefore, boring; the brain very quickly will get unhappy with the whole bunch of rigid straight lines. But, it gets absorbed, and untried by the beauty of curvilinear.

Figure 29: Characteristics of Using Lines in a Mind Map.

- **Keep Your Paper Placed Horizontally in Front of You**

The horizontal 'landscape' format gives the mind mapper more freedom and space to draw the Mind map than the vertical 'portrait' position; in addition, a horizontal Mind Map is much easier to read.

- **Keep Your Printing as Upright as Possible**

Upright printing gives the brain easier access to the thoughts expresses on the page; this law applies to as much to the angle of the line as to the printing itself; if the mind mapper keeps the lines as close to horizontal as possible, his or her Mind Map will be much easier to read.

2.3.2.2. The Laws of Layout

Use hierarchy

Use numerical order

Use Hierarchy

The way the mind mapper lay out and structure his or her Mind Map will have an immense impact on how he or she will use it and its practical usability. In addition, the use of hierarchy and categorization enhances the power of the brain, especially memory.

Use Numerical Order

If the Mind Map is the basis for specific task, such as a speech, an essay, or an examination answer, it is preferable to communicate the thoughts in a specific order, whether chronological or in order of importance. To use the numerical order, the mind mapper would simply number the branches in the desired order or action of priority. Letters of the alphabet could be used instead of numbers. (Buzan, 1994, p. 104)

2.4. Uses of Mind Maps

After viewing in details the laws and the guiding principles of mind mapping, this section examines the many exciting applications, and practical ways in which this new skill of mind mapping can be used. Here, the uses of Mind maps are divided into three categories: personal applications, educational applications, and business and professional applications; in each category we gave an example with its mind Maps which are made by different people from around the world.

2.4.1. Personal

In this category we investigate how Mind Maps can be used to give a greater insight into one's self, one's needs, desires and long term goal. In more precise terms, Mind Maps can be used for yearly, monthly, and daily planning, time and life-management, decision making, problem- solving, writing diaries, and self-analysis.

2.4.1.1. Self-Analysis

Because a Mind Map uses the full range of cortical skills, it gives a comprehensive reflection of one's self; after seeing this clear external image of one's self, one is less likely to suffer the unhappy consequences of making decisions which go against his or her nature and real needs and desires. It is helpful to begin with a complete picture; 'a self-analysis Mind Map', which includes as many as possible of one's major characteristics and personality traits. To make a self-analysis Mind Map, there are four major stages:

- **Preparation of the Environment**

Before beginning, the mind mapper needs to prepare his or her environment. Self-analysis is a sensitive area; it is particularly important that the materials are of the highest quality, and the environment is as attractive, comfortable, and mentally stimulating as possible. 'Caring for yourself will make your self-analysis more open, complete, profound and useful. The following recommendations should be taken into consideration to ensure the appropriate environment for mind mapping:

- **Ensure a Moderate Temperature in the Room**

Temperature can evoke in one a negative, neutral or positive response; therefore, moderate temperature is the best, and one can easily adjust his or her clothing for optimum comfort.

- **Use Natural Light Where Possible**

Natural light is the most relaxing light for eyes, and also it gives the brain more accurate information on form, colour, line, and dimension.

- **Ensure That You Have Plenty of Fresh Air**

One of the brain's main foods is oxygen. Fresh air provides the brain this fuel, thus increasing perception and mental stamina.

- **Furnish the Room Appropriately**

Make sure that the chair and the desk or table in the work place are of the best quality, and that their design allows maintaining a relaxed, comfortable and up posture. Good posture increases the supply of blood to the brain, improves perception, and enhances mental and physical stamina. Furthermore, well designed and attractive furniture will make one wants to use his or her work place.

- **Create Pleasing Surroundings**

Unfortunately, learning is often associated with punishment; many people subconsciously make their study or work place a prison cell. The mind mapper must make his or her study space or work place a place where he or she actively wants to go, even if there is no particular learning task in mind. A few favourite pictures and some colourful paintings or some famous sayings can be put in the study place. These little touches can make the study and workplace welcoming and appealing.

- **Play Appropriate Music, or Work in Silence If You Prefer**

We all react differently to music; some people like to have music while performing a task; whereas, others prefer silence. Eventually, the study place should be stimulating, and each individual has to choose the appropriate way or appropriate music for him or her.

- **Quick-Fire Mind Map Burst**

Draw a multi-coloured, three- dimensional central image which encapsulates either the physical or conceptual idea of one's self. Then a quick-fire Mind Map burst is made, allowing

a full and free flow of facts, thoughts and emotions. Working at speed will make it easier to express all the ideas about the person; whereas, attempting to be too neat and careful is likely to inhibit the spontaneous truthfulness needed for such an exercise.

- **Reconstruction and Revision**

At this stage the mind mapper should select his or major branches; these branches may include:

- ✓ Personal history
- ✓ Strengths
- ✓ Weaknesses
- ✓ Likes
- ✓ Dislikes
- ✓ Long-term goals
- ✓ Family
- ✓ Friends
- ✓ Achievements
- ✓ Hobbies
- ✓ Emotions

The last item, emotions, is particularly important, but unfortunately too often excluded. In this branch, the mind mapper can write the emotions which he or she likes, the emotions wanted, situations he or she felt strong emotions and so forth. Colours, shapes, symbols and images are especially helpful in expressing this aspect of the personality in a Mind map.

Other elements can be included as the main branches in a self-analysis mind map are:

- ✓ Learning
- ✓ Knowledge

- ✓ Business

- ✓ Health

- ✓ Travel

- ✓ Leisure

- ✓ Culture

- ✓ Ambitions

- ✓ Problems

After completing the quick-fire Mind Map burst and having selected the major branches. The mind mapper should create a larger, more artistic and more considered version; this final Mind Map is the external mirror of the Mind Mapper's internal state. 'Buzan, 1994, p. 176- 180)

- **Make Your Decision.**

Looking at the final Mind Map, the mind mapper can make decisions and plan his or her future actions based on a clearer view and more comprehensive knowledge of the needs and wants.
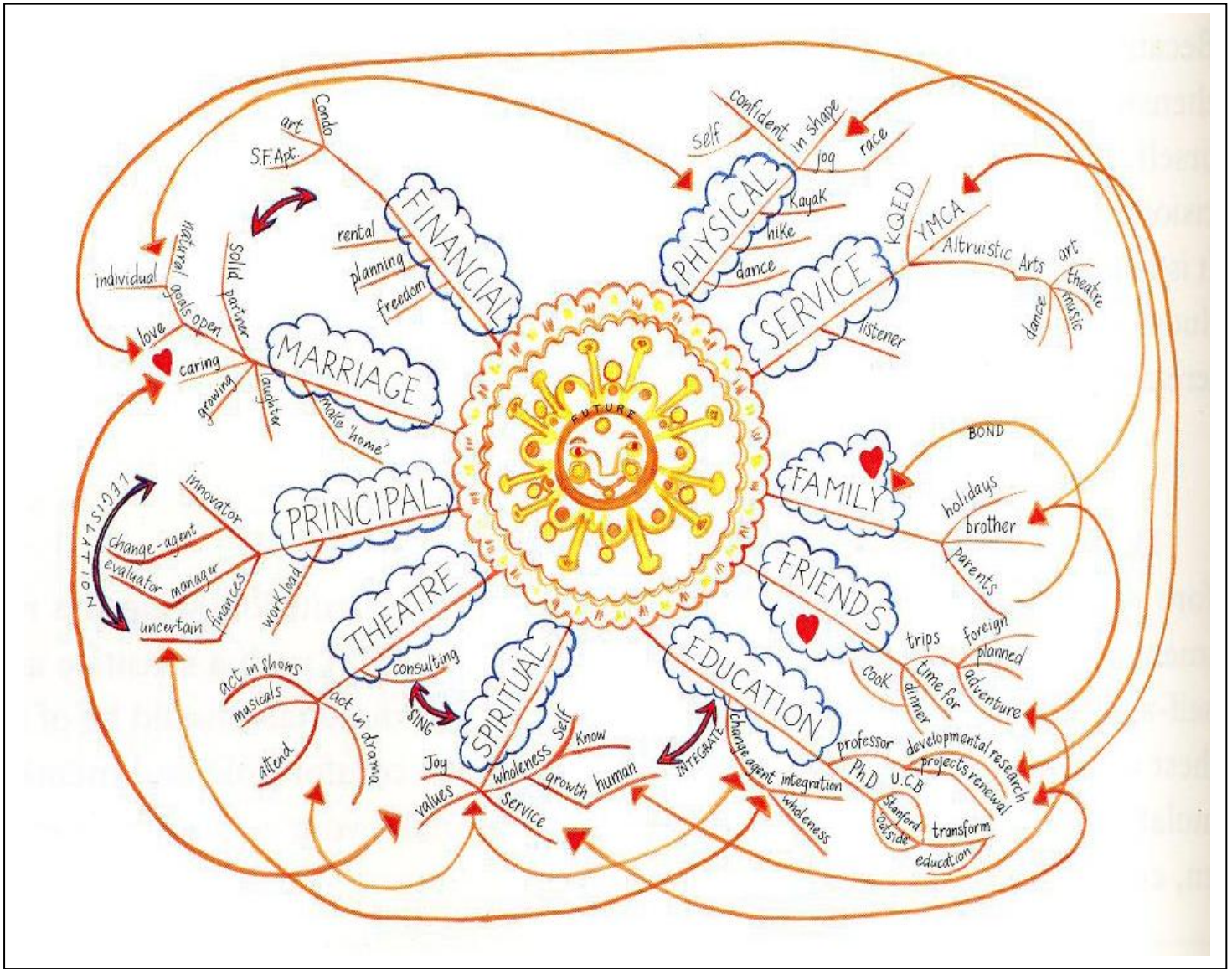
Figure 30: Mind Map by a Female Senior Executive Examining Her Belief System, Herself and Her Chosen Directions for the future. (Buzan, 1994, p. 178)

- **Benefits of Self-analysis Mind Maps**

Using Mind maps for self-analysis is very beneficial. They make future planning easier and more accurate by putting it in the context of the individual's state; also, they provide a comparatively and increasingly objective perspective on the self. In addition, by utilizing all the cortical skills, self-analysis Mind Maps give a full and realistic picture of the individual, and they act as a permanent record, thus allowing the mind mapper to gain a truer

perspective over the long term. Furthermore, they can be used to help others analyse themselves.

2.4.2. Educational

In the educational category, mind mapping is considered as a revolutionary technique; it can be used for both learning and teaching. In learning, it is useful for the preparation and writing of essays, summarizing lectures, note-taking, revision for exams, projects and reports, and even taking examinations. Whereas, in teaching, mind mapping can be used for preparing lectures; yearly, term, and daily planning; presenting lessons; and designing hand-outs. The example given in this category is lecture preparation; in the next chapter we will deal with this category in details applying the technique of Mind Mapping on the teaching and learning of the English language.

2.4.2.1. Preparing a Lecture

One of the most powerful ways to use Mind Maps is as lecture notes. Preparing a lecture in Mind Map form is much faster than writing it out and it has the big advantage of allowing both the lecturer and the student to keep an overview of the whole subject at all times. As a framework for lecturing, the Mind Map enables the speaker to hold a perfect balance between a spontaneously spoken and fresh talk, on the one hand, and a clear and a well structured presentation on the other hand. Furthermore, the Mind Map allows accurate time keeping during the lecture or, if time allowed changes for some reason, it allows the speaker to edit 'on the move' to adjust the talk to a greater or lesser length, as required. This editing function can also be very useful if some new information becomes available just before the lecture. A Mind Mapped lecture is easy to update from year to year without becoming messy and its mnemonic qualities mean that a brief overview before the lecture quickly brings the topic right back into focus. Since the lecturer's own knowledge will evolve

the same Mind Map will trigger quite different lectures if used from year to year; this avoids the tedium of stale lecture notes without requiring any extra work. Accordingly, it makes the lecturing more fun and more interesting for both the lecturer and the students or audience. (Buzan, 1994, p. 223)
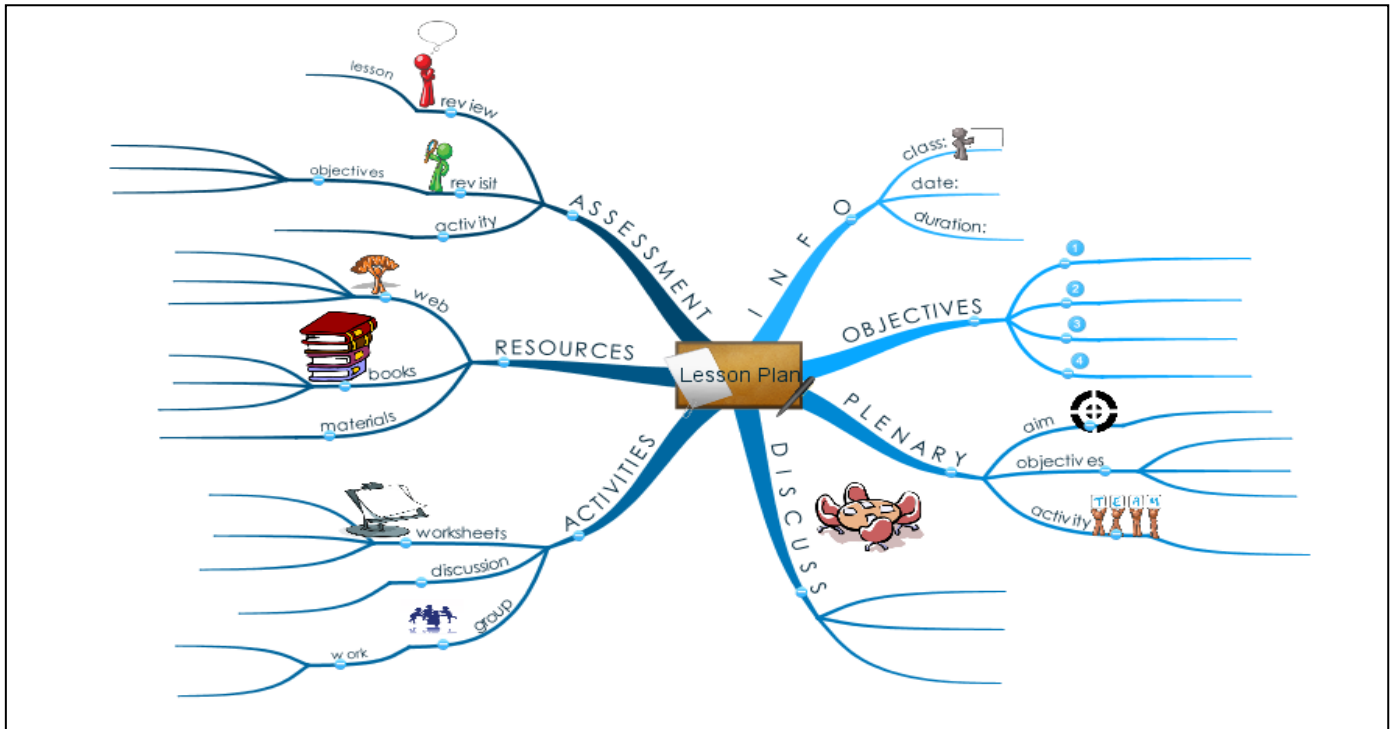
Figure 30: Example of Lesson Plan With a Mind Map.
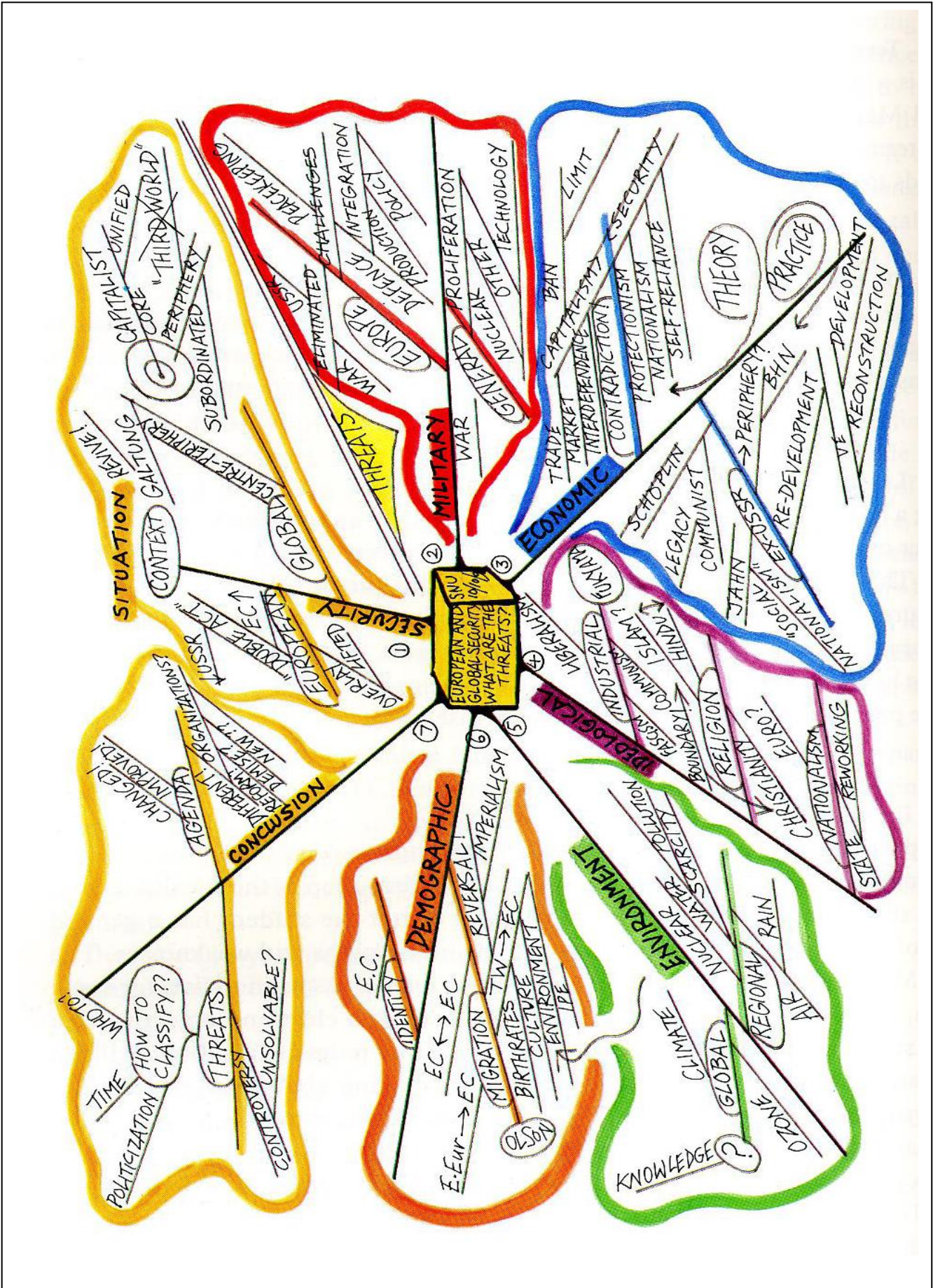
Mind Maps are also useful in this category; they can be used for planning; management, meetings, and presentations. Let us take management for example, in management Mind Maps increase efficiency, productivity and enjoyment. In fact, they can be used by every individual in a business or professional organization in any situation where linear notes would normally be taken. First, the day can be planned using Mind Map diary; subsequently, telephone calls, meetings, counselling sessions and interviews can all be Mind Mapped. This ensures that the participants have a full and accurate grasp of what has been discussed and agreed.

2.4.3.1. Presentations

Presentations are becoming a vital part of business life today. Amazingly, a huge number of people are terrified of public speaking, ranking their fear of making speeches above their fear of spiders, snakes, diseases, war and even death! Fortunately, mind mapping help overcoming this fear enabling the mind mapper to prepare, organize and present his or her information and ideas in a clear, interesting and effective way.

Business and education are closely related because the key element in both of them is communication; communication in simple terms is imparting and receiving information. The role of presentations is to communicate information and ideas. Preparing business presentations Mind Maps is almost identical to preparing examination or essay Mind maps. The steps are the following:

First, and after drawing the central image which represents the chosen subject, the first step is to do a quick-fire Mind Map burst of any ideas which come to mind, and which are in any way connected to the topic chosen. Second, the mind mapper should organize the main branches and sub-branches, and fill in any key words which come to mind. Since each key word will take up at least 1 minute of the presentation, it is preferable to restrict the Mind

Map to a maximum of 50 key words and images for a 1 hour speech. Third, the mind mapper at this stage will put codes to indicate where he or she wishes to insert slides, videos, particular cross-references, images, and so forth. Four, here the mind mapper should consider the order in which he or she wishes to present the main branches and then he or she should number them accordingly. Five, here the appropriate length of time should be allocated to each branch, and then the mind mapper would follow his or her own instructions.

2.4.3.2. Mind Mapping Versus Linear Preparation

Mind Maps, and unlike linear notes, give the speaker freedom and flexibility as well as order and precision. The linear method has several disadvantages, and here are some of them: because the speaker has to keep referring to written notes, he or she inevitably loses eye contact with the audience; also, having to 'hold on' to the notes makes it impossible to reinforce major points with physical gestures. In addition, a Mind Map gives the speaker a perfect balance between the spontaneity of natural talk and the structure of worked-out ideas, and this powerful combination is the key to effective and confident presentation. Moreover, after about 20 minutes, the attention of the people in the first 30 rows will directly shift from the content of the speech to how many pages are left. Another thing is that a pre-prepared speech is always an 'out of date' speech; it does not allow the speaker to adjust to the audience's immediate needs or to adapt the speech in response to points made by other speakers. Furthermore, and because the speaker is chained to his or her notes, it is difficult to adjust the presentation so that it finishes within the allocated time. Finally, being totally dependent on any inflexible form has inherent dangers.

2.4.3.3. Two True 'Presentations' Stories

Our first story is about a presenter who had to make a speech at a three-day design conference in Washington DC, USA. The conference was attended by 2300 delegates and our man was number 72 out of 75 speakers. He had to give his prepared speech from behind a podium and he was allotted the 'graveyard shift'; the slot starts immediately after lunch. He was not a trained speaker, and as he approached the end of his 45 minute presentation most of the audience were dozing off. They all awoke at the screamed conclusion of his speech, which was, 'Oh my God! The last page has gone!' the last page has indeed disappeared. And in that moment of sheer terror he had not the fainest idea what was on it!

The second story is about an admiral who was known for his ability to make even the most boring prepared speeches sound interesting. He could read a speech in much the same way as an audio-typist transcribes it- perfectly but without any knowledge of its content. This admiral was asked to give a speech to some senior naval officials and, as he was short of time, he asked his aide to prepare a 1-hour speech for him. He gave his presentation but he began to suspect that something was amiss when, after an hour, he found that he still had about the same number of pages to go. Finally, the truth dawned; he had been given two copies of the same speech. But the real horror was that the copies were ordered page 1, page 1, page 2, page 2, page 3, page 3, and so on. Because of his senior rank, no one had dared point out that perhaps this was carrying the mnemonic value of repetition a bit too far! A Mind Map would have saved him the embarrassment. (Buzan, 1994, p.255)

2.4.3.4. Giving a Mind Mapped Presentation

The Mind Map has several advantages when making a presentation; for instance, if the audience has particular needs that arise, either before or during the speech, the mind mapper can immediately link them into the Mind Map. Equally, if the time available for the presentation suddenly expands or shrinks, the mind mapper can edit quickly and easily.

Accordingly, the presentation will be exactly timed; therefore, the performance will be impressive in itself as well courteous to the audience and other speakers. Likewise, if the previous speaker has made similar points but with more knowledge or force, the mind mapper can quickly add to or alter his or her Mind Map, highlighting these points for agreement and thus forming the 'brilliant him brilliant me' association. Also, if the previous speaker has made misinformed or illogical comments, these can also be linked into the mind mapper's Mind Map and then expanded in his or her presentation in order to give the correct information, or the encourage subsequent discussion and debate.

Figure 33: Mind Map by Tony Buzan for Welcoming Speech.

2.4.3.5. Benefits of Mind Maps for Presentations

However simple they seem, the benefits of Mind Maps in presentations are of utmost importance; they increase the effectiveness of the presenter and the comprehension and entertainment of the audience. Mind Maps are beneficial in many ways; first, they increase eye contact with the audience; second, they give the presenter the freedom of movement; third, they utilize a greater range of cortical skills; fourth, they increase involvement both for the speaker and the audience; fifth, they enable the presenter to adapt his or her presentation to the needs of the audience and to time it precisely, because they make it easier to alter or expand on key points; sixth, they result in a more memorable, effective, and enjoyable performance for both the speakers and the audience; finally, they give the presenter the freedom to be him or herself.

CONCLUSION

Having learnt how to make a Mind Map using the five steps, and the different guiding principles, and after exploring the various uses of Mind Mapping for personal, educational, business and professional applications, it is recommended to practice this technique in order to master it and benefit from its various advantages. The next chapter applies the technique of Mind Mapping in a specific domain, which is learning a language.

Part Two: Field Work

Chapter Three

Fieldwork of the Study

Preview

    Introduction

3.1. General Description of the Workshops

3.2. The Analysis of the Workshops' Results

3.3. Findings

3.4. Recommendations

    Conclusion

> "Some people see things as they are and ask why,
>
> I see things as they can be and ask why not"
>
> Robert F. Kennedy

Chapter Three

FIELDWORK

INTRODUCTION

This chapter represents the fieldwork of the study we have chosen in order to test the applicability and the legitimacy of the Mind Map technique as a lesson summarizing tool.

To achieve our estimated goals, we have designed two workshops with 20 first year Master student of the English language at Biskra University. In these two experimental workshops we learnt how to summarize lessons using the Mind Map technique. To test the applicability of the technique we compared the students' results before and after using the technique of mind mapping.

3.1. General Description of the Experimental Workshops

The workshops were designed for the Master one students of the English language at Biskra University. The two workshops lasted for two days; we dedicated 4 hours of training for each workshop. The students were divided into 6 groups, each group with 4 to 5 students. The two workshops were conducted on a high level of professionalism using data-show and loudspeakers; furthermore, each student was provided with 7 coloured pens, 4 highlighters with different colours, and a number of blank unlined papers with different format – A4 and A3.

In the first workshop, the students were taken into a journey into the human brain, providing them with what is called "mental literacy": what are the parts of the human brain, and what are the functions of each part. In addition, we provided the background knowledge about the mind map technique by introducing its founder along with its users from famous leaders, companies, and countries. Next, we dug deeper into mind mapping by speaking about

the principals and the laws of mind mapping. We concluded the first workshop by practicing the technique; each student was supposed to make a mind map about the things he or she likes.

The second workshop was all about summarizing lessons. The students were asked to summarize the lessons of Didactics, Applied Linguistics, Written Expression, and Methodology using the mind map technique. First of all, students should work individually, and then a general correction is applied to see whether the technique is effectively used. Three questions were asked to verify the effectiveness of the mind maps: 1. Have you used colours? 2. Have you used key ideas? 3. Have you used pictures where it is possible? After the correction, the students are asked to work in a group to benefit from each other; a second correction is conducted. The workshop was concluded by summarizing and presenting a different lesson using mind maps to guarantee that students have mastered the technique.

3.2. The Analysis of the Experimental Workshops' Results

After the workshop, the students were supposed to use the mind map technique to prepare for their interrogations and exams. Accordingly, five questions were asked to each student:

1. Have you applied the mind map technique?

2. How much could you recall from each mind mapped lesson? (the percentage)

3. In which modules did you use this technique?

4. What was your mark in this module before using the mind map?

5. What is your mark after using mind maps?

The results are summarized in the table below:

FIELDWORK

Student	The use	Memory	module	Marks			A word about mind maps.
				before	After		
1	Yes	80%	Didactics	12	13	5%	/
2	Yes	60%	Didactics	12,5	13,5	5%	/
3	Yes	80%	Arabic	5	17	60%	The world in a paper
4	Yes	80%	Pragmatics	11	14	15%	Imind maps= excellent minds
5	Yes	70%	Didactics	10	14	20%	Many in one
6	Yes	80%	Written expression	11	15	20%	Time saver
7	Yes	60%	Language acquisition	13	15	10%	/
8	Yes	60%	Didactics	11	9	-10%	/
9	Yes	50%	Methodology	11	11	0%	/
10	yes	70%	Applied linguistics	9	11,5	12,5%	/
11	yes	80%	Language acquisition	12	14	10%	Good
12	yes	70%	Arabic	6	16,5	52,5%	/
13	yes	70%	Applied linguistics	13	14	5%	Student best friend
14	yes	70%	Language acquisition	16,5	18,75	11,25%	/

15	yes	60%	Applied linguistics	10	11	5%	/
16	yes	60%	Language acquisition	11	14	15%	/
17	Yes	75%	Pragmatics	13	13	0%	/
18	Yes	70%	Methodology	11	14	15%	Memory enhancer
19	Yes	55%	Didactics	9,5	13	17,5%	/
20	Yes	50%	Methodology	10	11	5%	/

Table 1 : The Experimental Workshops' results.

Our analysis is divided into four sub-analyses which are based on the five questions that we have conducted after the two workshops. Each sub-analysis is described in an individual section. The first section deals with the use of mind maps by Master One student of English; the second section talks about the percentage of recalling the information from a mind mapped lesson; section three intends to interpret the results according to the classification of the chosen modules; however, The final section comprises the two last questions that the level of improvement in terms of the obtained marks before and after the use of mind maps.

Section One: The Use of The Mind Map Technique.

[1]Rs	Participants	[2]P %
Yes	20	100%
No	0	0 %

Table2: The Use of the Mind Map Technique.

The table above shows that all the master one students of English language have used the mind map technique in summarizing their lessons.

The Use of Mind Maps

0%

100%

■ yes
■ no
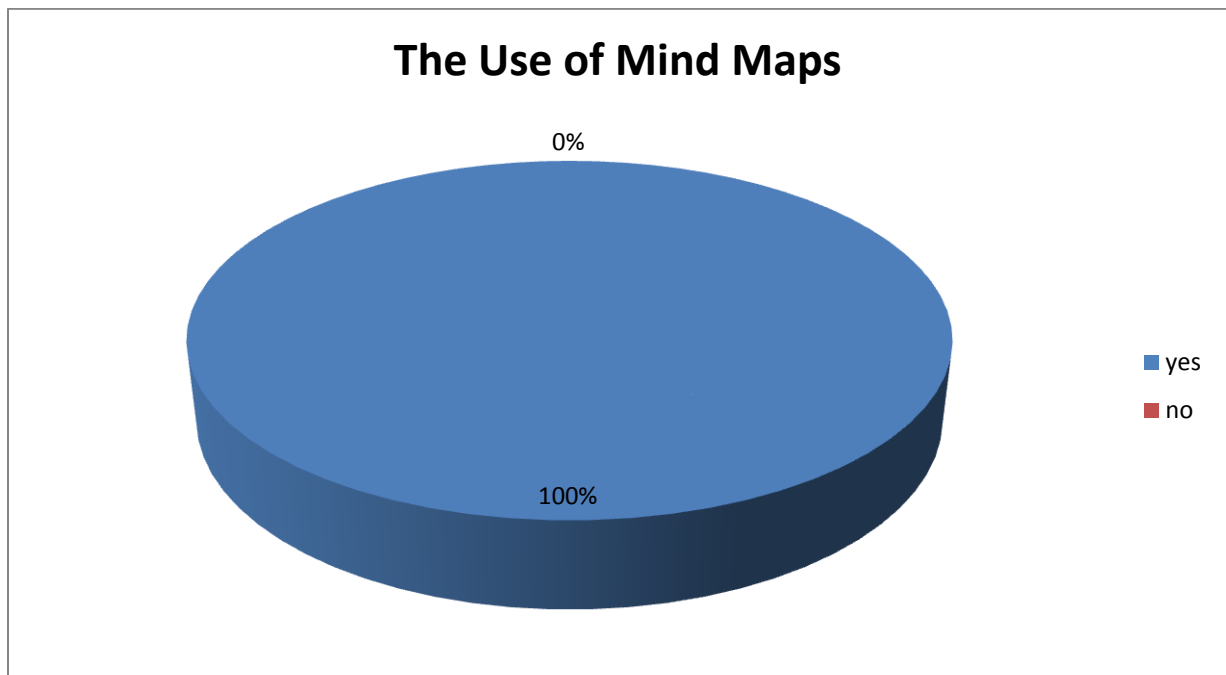
Graph34: The Use of Mind Maps.

100% of the participants of Master One student of English language find the mind map technique convenient; accordingly, they have used it in summarizing their lessons.

Section Two: The Memory Aspect.

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1 **Rs** indicates responses
2 **P** indicates percentage.

Rs	Participants	P%
0%-30%	O	0%
31%-60%	7	35%
61%-100%	13	65%

Table3: The Percentage of Recalling Information from a Mind Mapped Lesson.

The table shows that 65% of participants recalled above 61% of the information from their mind mapped lessons; whereas, 35% of participants recalled from 31% to 60% of the information. However, no one recalled less than 30% of the information.
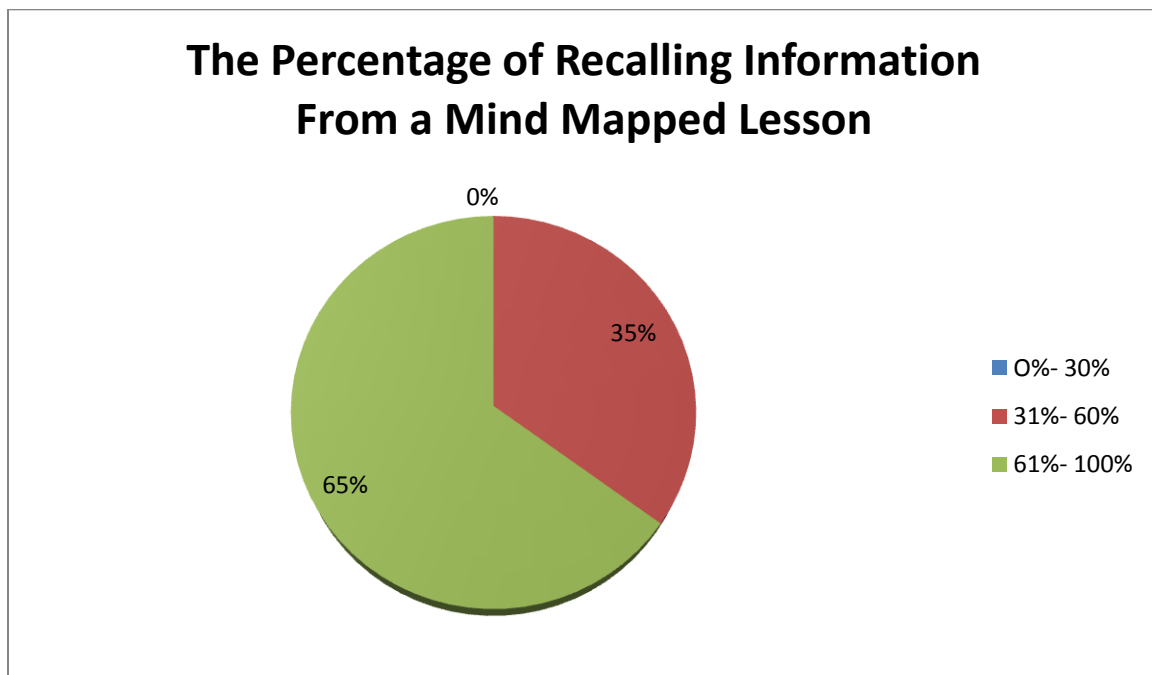
Graph 35: The Percentage of Recalling Information from a Mind Mapped Lesson.

The majority of participants recalled more than 61% of information from their lessons which refers to the nature of the mind map which is a brain friendly way of entering and

recalling information. 35% of participants recalled from 31% to 60% of information which is conciderably a high percentage. Participants when asked said that there are two main reasons behind this percentage: first, the content of the lesson is ambiguous to them, and not as clear as it should be. The second reason is the participants' interest in the module itself; however, no participant recalled less than 31%.
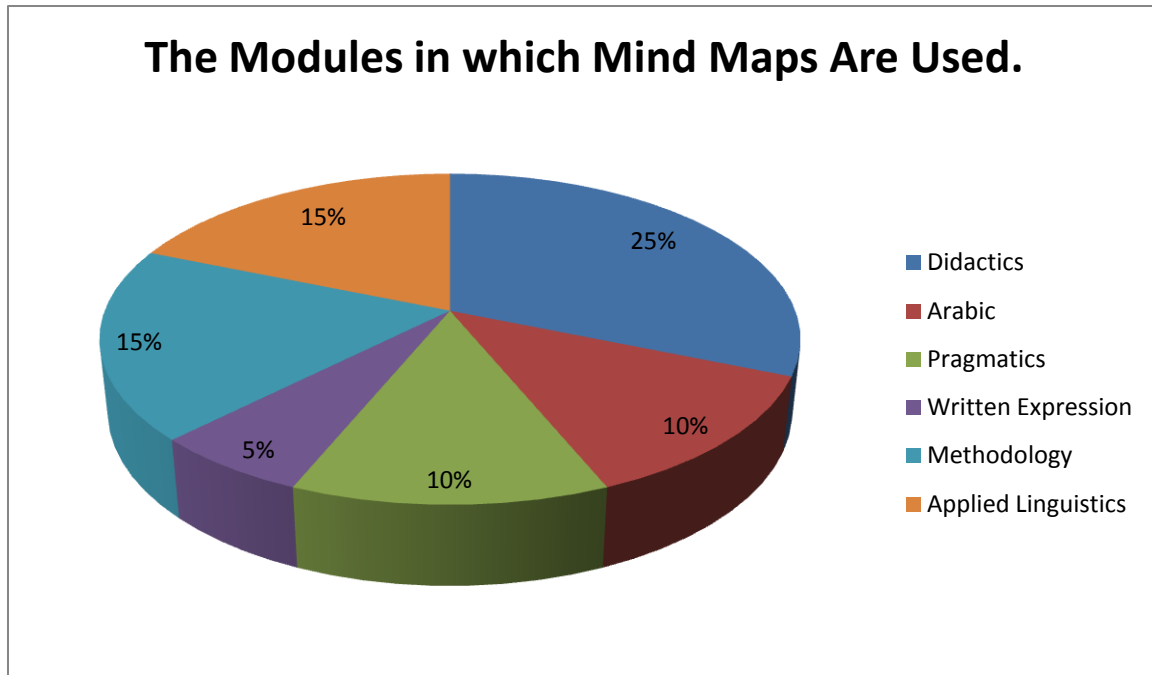
Section Three: The Modules in which Mind Maps Are Used.

Modules	Participants	P %
Didactics	5	25%
Arabic	2	10%
Pragmatics	2	10%
Written Expression	1	5%
Language Acquisition	4	20%
Methodology	3	15%
Applied Linguistics	3	15%

Table 4: The Modules in which Mind Maps Are Used.

The table above indicates that the participants applied the mind map technique in 7 modules: Didactics, Arabic, Pragmatics, Written Expression, Language Acquisition, Methodology, and Applied Linguistics. 25% of participants applied the mind map technique in Didactics; 20% of them used it in Language Acquisition; 15% used it in Methodology and Applied Linguistics; 10% of them used it in Arabic and Pragmatics; however, 5% used it in Written Expression.

The Modules in which Mind Maps Are Used.

25%

15%

15%

5%

10%

10%

- Didactics
- Arabic
- Pragmatics
- Written Expression
- Methodology
- Applied Linguistics

Graph 36: The Modules in which Mind Maps Are Used.

The module of Didactics is the module in which 25% of participants used mind maps, and this is because of two main reasons: first, the nature of the module itself which is interesting and enjoyable; second, the teacher of that module: Mr. Bashar who used to use colours and charts in his lessons; the two reasons motivated the participants to apply Mind Maps in this module. The other modules ranked from 5% to 20%.

Section Three: the level of improvement in terms of students' marks.

level of Improvement	Participants	P%
-10%	1	5%
0%	2	10%
5%	5	25%
10%	2	10%
11,25%	1	5%
12,5%	1	5%
15%	3	15%
17,5%	1	5%
20%	2	10%
52%	1	5%
60%	1	5%

Table5: The Level of Improvement in Terms of Students' Marks.

The table shows that 2 students have not improved in their marks; 5 students have improved by 5%; 4 other students' improvements ranged from 10% to 12, 5%; however, 3 student has improved by 15%, and 3 students' improvements ranged from 17, 5% to 20%. Two other students' improvements ranged from 52% to 60%. Only one student got -10% in his level of improvement.

The Level of Improvement in Terms of Students' Marks.
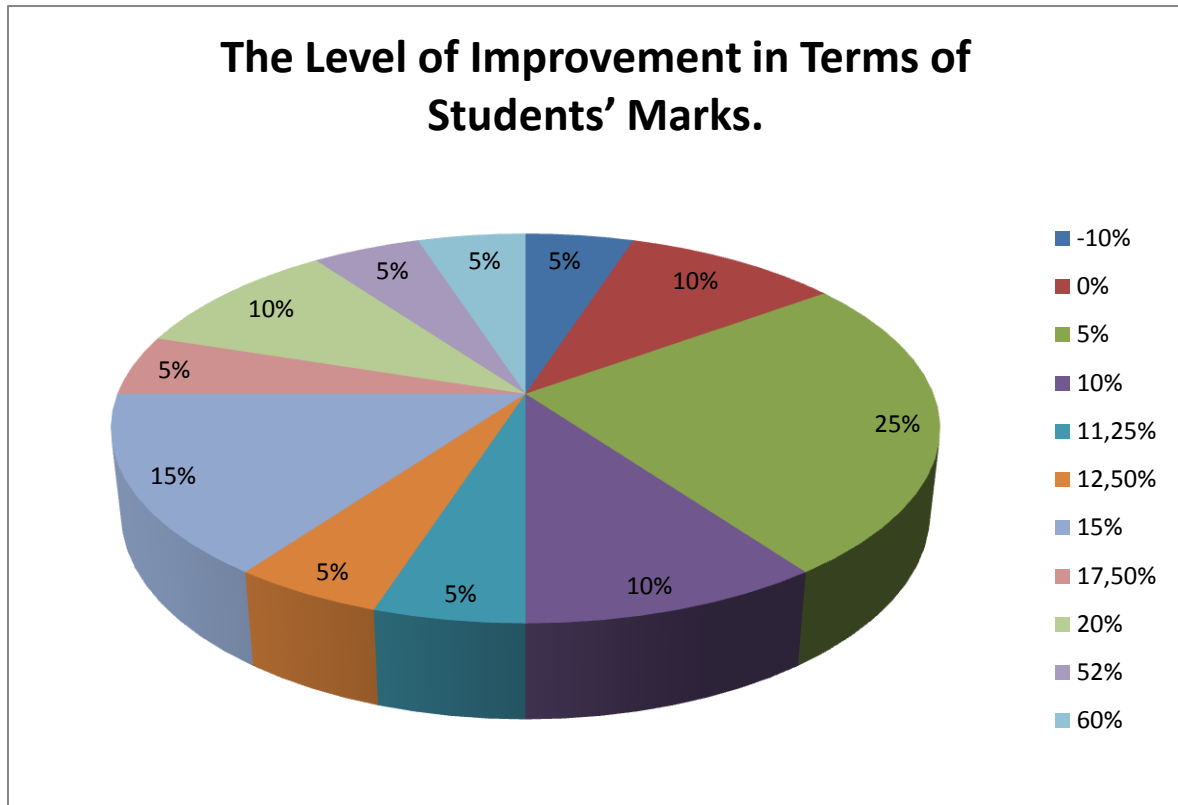
Graph 37: The Level of Improvement in Terms of Students' Marks.

One student got -10% in his level of improvement. When asked about the reason, the student stated that he revised a set of lessons, but found that the examination questions were speaking about other lessons. Two other students have no improvement in their mark, because, as they said, they have not invested the necessary effort. 5 students have improved by 5% in their marks which is not a high percentage, but it is better than stagnation. Furthermore, 10 students have got an improvement level ranging from 10% to 20%. However, 2 students interestingly achieved 52% and 60% in their improvements which is a high level of improvement. Investigating the difference existing between the percentages of the levels of improvement, we found two basic reasons: the first reason was that the two high percentages were achieved in the Arabic module which indicates that the low levels of improvement of the other students was not because of the mind map technique; rather, it was because of the competency in the English language. Second, some students were already at the peak; accordingly, they have improved only by 5% or 10%.

3.3. Findings

In conducting this study which was based on two workshops, and interview, we have come to four main conclusions; we have been able to detect that:

1. The Mind Map technique can be implemented in the department of English language. One way of implementing mind maps in English language teaching is by designing mind mapped handouts in which there is only key ideas reinforced by colours, symbols and key images.

2. The amount of information recalled from a given lesson can be increased by more than 61% by using the Mind Map technique.

3. Students' level of improvement in terms of their marks can be improved by the average of 17, 57%

4. Workshops increase students' motivation and involvement in the process of learning. Leadership, critical thinking, and creativity skills are stimulated.

3.4. Recommendations

Considering the facts provided by our research, we can recommend the following for the purpose of improving the level of education in general, and the English language teaching in particular

1. Providing teacher with training periods on the up-to-date teaching tools in general, and the Mind Map technique in particular. The fifth pillar in the global competitiveness is higher education and **TRAINING** according to the Global Competitiveness Report (see appendixes). A training period of 15hours, or two days can arm teachers with the up-to-date teaching and learning tools. Nowadays, there are specialized training centres that can provide this kind of seminars and training periods.

2. Modernizing learning by organizing workshops for students to raise awareness about the cutting edge learning tools. The age we are living in now is very different, it is the age of information; the information is available everywhere and any time; accordingly, students now are not interested by more information; instead, they are looking for new skills. One way of providing the necessary skills for student is by organizing seminars and workshops in which students learn and practice the new skills. These seminars and workshops can be organized by specialized centres.

3. The same results can be achieved by fewer words and less effort, cutting the unnecessary verbiage from the lessons is crucial; one way of doing so is by applying the Mind Map technique. Unfortunately, most of students have associated pain with learning because of the hard work they have to invest; whereas, learning can be easier and more enjoyable by using colours, symbols, images, and key ideas. In place of writing a 3-pages- lesson, the lesson can be divided into small paragraphs, each paragraph starts by a topic sentence which represent the main idea, and this topic sentence is supported by two or three supporting sentences which contain examples, statistics, pictures and so forth.

4. When knowing the natural way by which our brains function, learning and teaching would be much easier and more enjoyable. The Mind Map technique is a brain friendly way of teaching.

CONCLUSION

This chapter has represented the practical field work we have followed in order to testify the applicability of the Mind Map technique in lesson summarisation. The results have shown that the percentage of recalling information can exceed 61% when using Mind Maps, and the level of improvement in terms of students marks can reach 17,57% putting in mind the small period of time we have worked with to get this results.

General Conclusion

According to the Global Competitiveness Report of 2011-2012, Algeria is ranked 126 from 141 countries in the fifth pillar which deals with the higher education and training. (p.95).This position is very low, and it reveals the unconsciousness about the importance of training. We have taken the responsibility of raising people's awareness about the importance of training. This work focused on the field of education in general, and language teaching and learning in particular. It introduced one of the best thinking tools called the mind map. We have the privilege of training 20 master one students of English on how to use this technique in the process of learning the English language.

The results that we have come with prove that this technique can be applied in the English language teaching settings here in Algeria. The participants ability to recall information from a mind mapped lesson exceeds 60%, and their achievement marks increased by 17, 57%.

The Mind Map technique in now used in over 150 countries around the world, it helped and it can help. As we have been repeating, learning can be perceived as a hard duty, and it can be viewed as an enjoyable journey. It depends only on the tools we are using.

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ملخص

هذه الدراسة تهدف للفت الانتباه إلى واحدة من أحدث التقنيات في مجال التعليم هذه التقنية تسمى الخريطة الذهنية. هذا البحث يركز على مدى قابلية تطبيق الخريطة الذهنية كأداة فعالة في تلخيص فهم و تذكر المعلومات. في إجراءنا لهذا البحث اعتمدنا على دراسة كمية نوعية؛ 20 طالب قاموا بحضور ورشتين تدريبيتين على الخريطة الذهنية. المشاركون تمرنوا و تمكنوا من هذه التقنية من خلال الورشتين، لذلك طُلب منهم تطبيق هذه التقنية في تلخيص دروسهم كطريقة للتحضير للامتحانات. بعد المقابلة النهائية، وجدنا أن نسبة تذكر المعلومات ازدادت و علامات المشاركين تحسنت. من هنا نجد أن الخريطة الذهنية أثبتت فعاليتها كأداة لتلخيص الدروس.