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THE EFFECTS OF STRATEGIC NOTE-TAKING ON LECTURE

COMPREHENSION AND LEARNING PERFORMANCE

Case of second year LMD EFL students at Biskra University

Dissertation submitted in partial fulfillment of the requirement for the degree of **Master** in English (science of languages).

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DEDICATION

To my mother

GHEDBANE Soumia

DEDICATION

This dissertation is dedicated to:

My father .There is no doubt in my mind that without his continued support and advice I could not have completed this work.

My mother, who taught me that even the largest task can be accomplished if it is done one step at a time, my sister, Ines.

My brother, Oussama.

GOURARI and MELKMI families.

My dear colleague and friend, GHEDBANE Soumia, for her unbelievable courage and help. Without her interesting ideas, the project would not be done in such a way.

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Whoever happens to read this dissertation.

GOURARI Amira

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ABSTRACT

Note-taking is a common behavior for students both while reading and while attending lecture. An extensive history of research dating back to the early 20th century has shown that both the process of note-taking and having notes to review promote learning.

The study investigates the effect of note-taking on students learning performance by 50 Second year LMD students in the Department of English at Mohamed Kheider University of Biskra. The participants will be divided into two groups, namely experimental and control groups. The experimental group will be allowed to take notes with the help of the template of Cornell Method during the General Culture lecture while the control group will take notes randomly. The scores that will be obtained by these two groups will be statistically analyzed and the results will show that the experimental group will do better than the control group.

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CHAPTER I:

GENERAL INTRODUCTION

INTRODUCTION

Note taking is an extremely important skill that is underestimated. It is also a very common strategy and experience for the retention of information especially in academic settings .That is why, it is necessary for learners to master this strategy for studies and even work.

In addition, note taking is a related skill that instructors should teach to support students' learning because they benefit from their notes in revision for exams. Effective note taking should be taught at university levels and teachers should show to their students' different methods of taking effective notes for better achievement in exams. In this dissertation, participants who take notes with the help of an effective method of note taking "the Cornell method" do better in the quiz than the participants who take random notes.

Besides, students report using note-taking to accomplish a variety of goals, including learning, maintaining attention during lectures and directing how they study (Van Meter et. al. 1994). Also, taking notes can help students effectively improve their lecture comprehension because students can pay more attention during note-taking process. For example, Lin (2005) hypothesizes that students could concentrate on the content of lecture passages as long as they took notes.

Furthermore, note taking skill contains different methods. Those methods differ according to students' learning styles and needs. For instance, some students prefer to use visual types because they have good visual memorization while others use voice notes because of their good listening capacities.

I.1.STATEMENT OF THE PROBLEM

Taking notes from lectures can be a challenging academic task. Some students attempt to transcribe every word in a lecture, others fail to take even the simplest notes. In both situations, learners could improve their lecture notes by giving more attention to the strategies of this skill. This study investigates the effect of note taking on second year LMD student's lecture comprehension and learning performance and the relationship between taking notes and student's achievement.

I.2.RESEARCH QUESTIONS

Three research questions were addressed in this study:

1- To what extent taking and using notes is important? And how it should be taken?

2-Is the comprehension of lectures affected if note-taking is taught?

3- Does strategic note taking affect learning performance?

I.3.HYPOTHESES

1- If strategic note taking is included in EFL programs from early stages, students would be able to understand and recall the lecture in a correct way.

2- If students take notes effectively, their learning performance will progress.

I.4.OBJECTIVES OF THE WORK

A large body of literature on traditional note-taking has shown it to be an effective educational activity. Assessing the quality of students' notes may also be useful, as learning

has been associated with the types of notes students take. This study will investigate the effects of good note-taking on Second year LMD EFL students' achievement. Therefore, the objectives can be summarized in those significant questions:

- Should students take notes during lectures? Why, why not?

- Does note taking strategies affect on the learning of students?

I.5.MOTIVATION TO THE RESEARCH

The central question motivating the research described in this study regards how note-taking changes the level of students. This work evaluates the way features of note-taking strategies affect behavior, and how differences in behavior affect performance on learning outcomes. It also investigates the design of interventions intended to encourage students to take notes in ways that are associated with learning gains. It focuses on note-taking strategies where students select text using a strategy in order to organize and remember their notes.

Our motivation to this research is based on our experience as students because one of us takes notes and the other does not take them at all. We have noticed that there is a difference in marks, information, remembering and revision which lead us to conclude that it is the way of how courses are written and prepared especially lectures where teacher do not write or give summarizing, as studies have been conducted regarding both the learning outcomes associated with such tools and the note-taking behaviors produced.

I.6.LIMITATION OF THE RESEARCH

Factors that optimize the use of taking notes are many. But this study deals only with the effects of strategic notes on learning. Due to time constraints, the subjects of the study are

limited only to six teachers and fifty students selected from second year. Furthermore, the available teacher subjects were male and female. Again, among the fifty student subjects, only fourteen were male and thirty six were female so, this is not likely to be in any way representative of female students in the university.

The study will concern itself with the impact of effective note taking during lectures on EFL students learning performance. This investigation will be limited in taking EFL students of second year LMD because:

We think that students of first year LMD are beginners and not used to take notes during their sessions in the high school, while students of third year LMD are advanced and experienced to take random notes.

I.7.ORGANIZATION OF THE STUDY

Chapter One discusses the overview, and need for this study. Chapter Two contains a review of literature and research regarding the variables. Chapter Three explains the methods and procedures that researchers used to gather and analyze data. Chapter Four presents the statistical analyses of the data gathered. Chapter Five report conclusions, recommendations of this study.

CHAPTER II:

REVIEWOF LITERATURE

INTRODUCTION

Note taking has been a principal activity of academic life and despite its widespread use in lectures; instructors and students take it for granted. That is why; a large body of literature on note-taking has shown it to be an effective educational activity. Not only positive learning outcomes are achieved from having notes to review, but the very act of note-taking has often been shown to improve learning.

The purpose of this investigation is to tell us about the impact of effective note taking and how the review of notes affects students' learning. It also shows several specific strategies of effective note taking to support students learning and revision before exams.

II.1.NOTE TAKING

II.1.1.Definition

Note taking is the practice of recording information captured from a transient source, such as an oral discussion at a meeting, or a lecture. In addition, note taking is an important skill for students, especially at the university level. Furthermore, note taking is writing down pieces of information in a systematic way and it is an effective strategy to control the amount of information that is delivered which can be daunting and confusing.

II.1.2.The purpose of writing and keeping notes

Students write notes during lectures, either on handouts produced by a lecturer or separately from these. They also take notes in tutorials and seminars and when reading independently. But why do students write notes? A number of writers and commentators like

Cottrell (2003); Sinfield and Burns (2003); and Lowes, Peters and Turner (2004) offer similar reasons and explanations for writing and keeping notes:

1) Notes act as a summary or reinforcement of the main points of what you read, heard or saw; they are also an essential record of where information came from (for referencing purposes). They also remind you of other things you should do to continue learning, e.g. sources to check out; action to take.

2) They are an aid to memory. If you summarize in your own words, this can help you to remember the subject better, particularly in exams.

3) Notes are, therefore, useful for future revision purposes, particularly in preparation for exams or writing assignments.

4) Notes also can help you to concentrate on the lecture or reading; the note writing process can help you overcome distraction and can encourage you to become a more active, rather than passive, learner.

II.1.3.Production of notes

When taking notes, students do not follow the same conventions as for the production of standard text; spelling, syntax, and the layout of information on the page are subject to significant changes. This variability has consequences on the nature of the training that students should be offered. All students would benefit from making certain operations automatic. Analyses of students' samples of note taking show that, within one lesson, students sometimes use several different representations for the same word showing that they are unsure about which representation to choose (Barbier, Faraco, Piolat, & Branca, 2004; Branca-Rosoff, 1998). Moreover, abbreviations that are used in notes should be understandable and unambiguous.

According to Bourdin, learning how to take notes from a spoken presentation, in terms of spelling, and syntactical processes, is a slow and gradual process (Bourdin, 2002). This is undoubtedly one reason why there is very little teaching of note taking skills at the pre-university level. Teachers in secondary schools are faced with teaching objectives that are not really compatible. Teaching how to condense information through the use of abbreviations leads to clashes at two levels: first, between teaching correct spelling, which is never completely successful, and abbreviation techniques that alter words; second, between the syntactical organizations of ideas. That is why; some studies have placed the emphasis on the use of note taking methods, such as tables, diagrams, and concept mapping that is largely based on the use of key words.

Garcia-Debanc suggests that teachers should teach their students how to skip lines, leave spaces, and use separators (Garcia-Debanc, 1990). Another study conducted by Bessonat shows that teachers should provide their students with a written document on the lecture for one hour, in which they could take notes. Each of these suggestions is then subject to special training in which the students willingly participated. We believe the interest of these instructions have a relationship, from a pedagogical point of view, with two major functions that are an integral part of note taking: writing to learn and learning to write.

II.1.4. The functions of note taking

Note-takers take notes to fulfill two major functions, to record information and/or to aid reflection. One of the major aims of note taking is to build up a stable external memory in a form that can be used at a later date. Confronted with a diverse range of information-transmission situations, note-takers are striving to avoid forgetting something. In addition, note taking is an essential tool in many information-transmission situations. At the university level, which is the level we are interested in here, note taking allows students to gather

information from lectures, books, or any other situation that they will later have to memorize or use in order to successfully complete their academic program. It can also help time-consuming, real-time thought processes like the resolution of mathematical problems. In this respect, Cary & Calson claim that notes are similar to a draft in that they allow information to be coded, consequently helping with the development of the solution (Cary and Calson, 1999).

II.1.5.The role of notes in learning

Hartley (1998) summarizes the results of fifty-seven studies of the effectiveness of note taking, which are based on the perceptions of students.

He suggests that there are three main reasons presented by students why they write notes:

(1) To relieve boredom, and because of peer pressure – everyone is doing it.

(2) Students believe the process will help them recall the content of lectures better in the future.

(3) They feel the notes will help them to be more organized with their revision.

Of the fifty-seven studies Hartley reviews, 34 (60%) suggests that the process of note writing do aid recall. He points out, however, that the results are based on student perceptions and assumptions, rather than what may actually happen; the students believe the process of writing notes leads to these outcomes.

It appears that a course textbook is the most widely used source (70% of students referred to it), with a key article next (over 50%), and 35% referring to their own notes in the exam. Hartley asserts that "…*the more sources a student used in answering the examination question, the higher the mark obtained*" (Hartley 1998, p. 82). Bligh's studies on note taking (reviewed and summarized by Bligh, 1998. Kiewra (1987) find that the process of taking and reviewing notes is positively related to academic achievement. And in a follow-up study,

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Kiewra and Benton (1989) conclude that the "*amount of note-taking is related to academic achievement*" and the "*ability to hold and manipulate propositional knowledge in working memory is related to the number of words, complex propositions, and main ideas recorded in notes.*" (p. 33).

These last points are important. To be effective, notes must engage meaningfully with the subject, be well-organized, re-read and reviewed on a regular basis.

II.1.6.How are notes taken?

The average writing speed of a student is around 0.3 to 0.4 words per second, whereas a lecturer speaks at a rate of around 2 to 3 words per second. Unless everything is said at dictation speed, or students develop exceptional shorthand skills, teachers will never speak slowly enough for students to write down everything that is said. As a result, students intuitively develop processes and methods that allow them to record the content of lessons. Without going into detail about the linguistic processes used, which are well known, such as the use of abbreviations, we would like to briefly look at the markers in a speaker's text that signal, more or less explicitly, the importance of what is being said. Note-takers are very attentive to these markers, which have a considerable influence on the quantity of notes taken. Several research studies identify the indicators that trigger note taking (Boch, 1999; Branca-Rosoff & Doggen, 2003) as the following:

- **Writing on the board**: this is a very powerful indicator. In other words, teachers are well advised to choose what they write on the board carefully.

- **Dictation**: when the teacher acts as if he or she is dictating the information (slow delivery, low vocal register).

- **A title of a section or a list or the listing of information:** those lists are often written on the board.

- **Definitions, catch phrases:** Even if students do not understand them, they overwhelmingly take notes on them.

- **Macro-textual planning:** these indicators organize and structure the classes (expressions such as "firstly"/"secondly" or "first question"/"second question").

All these indicators are very much tied to written communication. Alongside these indicators that trigger note taking, we can assume that some forms discourage note taking. The following can be considered as "inhibiting indicators":

- **Parentheses or asides**: sequences that do not contribute to the organization of what is said and that we intuitively perceive as often being introduced with a lower intentional register.

- **Interaction in class between the teacher and the students:** like in the case of teachers' responses to students' questions, or worse, between students.

- **Prosodic phenomena:** which are symmetrically opposed to those that characterize the trigger indicators: Faster deliveries, higher vocal register. These indicators often accompany the asides, parentheses.

- **Hesitations in speaking:** they are signs in which what is being said has not been planned by the teacher.

- **Certain preverbal indicators**: when the teacher puts aside his or her notes or walks around the classroom, the student statistically face troubles to note what is being said at that time.

The point in common with all these inhibiting indicators is that they are the product of a real, oral communication situation. Yet, we can assume that it is during these moments that comprehension hangs in the balance this means that examples and explanations are given in order to be useful to note. Teachers are therefore well advised, if they want their students to

take that piece of information by speaking so explicitly to them or using an explicit indicator such as "be careful, this is important!"

As already mentioned, one of the ways of responding to a note taking situation is, when possible, to use a method for processing the information as a whole (for a summary of the different methods, see Piolat, 2001). Nevertheless, it has been shown that most students, wishing to remain faithful to the teacher's words and in order to reproduce them during examinations, adopt a linear method of note taking that gives the notes a relatively classic "textual" appearance. This objective is particularly clear-cut in notes taken by students at higher levels in the university system (Boch, 1999). The use of a variety of note taking methods is much more common in the professional world.

II.2.NOTE TAKING PROCEDURES AND THEORIES

II.2.1.Strategies of taking notes

There are many effective strategies of taking notes and each method has its champions and advocates. The 'best' method is the one that works best for students' needs. Essentially, note taking styles fall into three main types:

A. Linear Notes.

B. Visual or Pattern Notes.

C. Voice Notes.

A. Linear notes

Linear notes are those that summarize, using sentences, half-sentences or abbreviations, the main points heard or read. To be most effective, there needs to be two levels of engagement with linear notes:

Level 1: Summarizing the main points from a lecture or other source.

Level 2: Can include one or more of:

- Review and re-organization of notes.

- Connecting and synthesizing ideas.

- Adding your own personal comments and reflections on the ideas summarized.

There are different types of the linear notes; the most important one which is more used is the Cornell method. For that reason we take this method as an example in our experiment.

A.1.The Cornell strategy

The Cornell method provides a systematic format for organizing notes without laborious recopying. After writing the notes in the main space, use the left-hand space to label each idea and detail with a key word or "cue."

Method

Rule your paper with a 2 ½ inch margin on the left leaving a six-inch area on the right in which to make notes. During class, take down information in the six-inch area. When the instructor moves to a new point, skip a few lines. After class, complete phrases and sentences as much as possible. For every significant bit of information, write a cue in the left margin. In order to review, cover your notes with a card by leaving the cues exposed. Say the cue out loud, and then say as much as you can of the material underneath the card. When you have said as much as you can, move the card and see if what you said matches what is written.

Advantages:

- It is organized and systematic for recording and reviewing notes.

- It is an easy format for pulling out major concept and ideas.

- It is simple and efficient.

- It saves time and effort.

Disadvantages: None

When to Use it:

- In any lecture situation.

- In interviews

- In conferences and seminars

Topic	Name:……………………………………..
………………………………………… …………………………………………	Hour:………………………………………… Date……………………………………

Question/ Main ideas and thoughts	Notes
……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ……………………………………… ………………………………………	…………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… …………………………………… ……………………………………

Summary

Explains the meaning of the passage or article using students own words

………………………………………………………………………………………..

(Table 01: Cornell Note-Taking Method)

A.2.The SQ3R strategy

Another popular technique, which matches the five R's, is the SQ3R method. This method has five steps and must be done in the proper sequence for the best results. This approach is primarily for reading textbooks but can be used for classroom discussions.

1. Survey: This simply means to scan the written material. This quick review should reveal the general content and structure of the concepts. Scan the headings, subheadings, topic sentences of paragraphs, graphics, and pictures. This will provide a clear overview of the information to be covered.

2. Question: Develop questions concerning what the materials are about. As the learner scans the material, generate questions to be answered later by careful reading.

3. Read: Read all of the material carefully and look for the answers to the questions that were developed. Learners should take notes as they read the material, which expands of the concepts and answers to the questions.

4. Recite: Learners should rephrase notes into their own words as is done in the five R's method.

5. Review: Again as in the five R's, learners should periodically review their notes to keep the information fresh in their mind.

A.3.The sentence strategy

This strategy is based on writing every new thought, a fact or a topic on a separate line, numbering it while progressing .It is slightly more organized than the paragraph to get more or all of the information. It is also used when the lecture is somehow organized, but heavy with a content which comes fast, hearing the different points, but without knowing how they fit together.

Example 1: A revolution is any occurrence that affects other aspects of life, such as economic life, social life, and so forth. Therefore revolutions cause change.

Sample Notes: Revolution – occurrence that affects other aspects of life: e.g., econ., socl. Etc. C.f. text, pp. 29-30

Example 2: At first, Freud tried conventional, physical methods of treatment such as giving baths, massages, rest cures, and similar aids. But when these failed he tried techniques of hypnosis that he had seen used by Jean-Martin Charcot. Finally, he borrowed an idea from Jean Breuer and used direct verbal communication to get an unhypnotized patient to reveal unconscious thoughts.

Sample Notes: Freud 1st – used phys. trtment; e.g., baths, etc. This fld. 2nd – used hypnosis (fr. Charcot) finally – used vrb. Commun. (fr. Breuer) – got unhpynop, patnt to reveal uncons. Thoughts.

A.4.Symbols to abbreviate

Another important thing that should be taken into account in taking notes is the use of abbreviations and symbols because this can save a lot of valuable time. Students should avoid the counterproductive effect of using abbreviations and symbols that they would not be able to understand later, students should be careful in the use of these aids to quick note taking. For example, a student in general culture should not use 'Eng' as an abbreviation for English (the language) because it can also stand for the English (people). Wallace (1984) indicates that note takers can derive abbreviations from three categories:

- Field abbreviations are learnt as part of the study in a certain field. For instance, students of chemistry learn that C stands for carbon and Ca for calcium.

- Commonly understood abbreviations are both used and easily understood across disciplines. '=' and 'i.e. 'are commonly understood to mean 'equal to' and 'that is' respectively.

- Personal abbreviations are made by the students themselves. This type of abbreviations can be very useful in specific lectures in which a word or some words are frequently repeated.

We can notice that from the above categorization, abbreviations derive from the culture of learning in general, from the particular discipline as well as from particular speech events or situations. These three parameters seemingly would not give much credit to the idea of a fixed and universal system of abbreviations. Whatever abbreviations and symbols students choose to use, they would better be able to decode them quickly. Otherwise, these aids to efficient note taking would not be helpful and actually become a hindrance. All in all, good systems of abbreviations and symbols should help note takers achieve a compromise between the need to attend to the lecture and the need to record selected information.

The use of symbols and abbreviations is useful for lectures, when speed is essential. You also need to be familiar with symbols frequently used in your courses.

Example:

Symbol	Meaning
"+"	for plus
"-"	for minus
"="	for equals
"#"	for number
"X"	for times
"> "	for greater than, more, larger
"<"	for less than, smaller, fewer than
"W/"	for with
"W/o"	for without
"W/in"	for within

(Table 2: Abbreviations)

B. Visual notes

Visual notes have been used for centuries for problem solving, particularly in science and engineering. Ideas are presented in a visual, connected way, showing linkages and relationships between elements. In the last two decades the idea has captured the attention of trainers and educationalists, largely due to the work of psychologist/author, Tony Buzan (1989; 1999), who coined the term 'Mind-mapping'. Essentially, the idea involves drawing or building a diagram that illustrates free-association or 'brain-storming' approaches to thinking.

B.1.Mind maps

The map involves a combination of words and images, and Buzan encourages the use of at least three colors, symbols, and codes to highlight or represent ideas. The basic approach to produce a mind map is to start in the centre of the page with a key word representing a concept. From this key word a central line radiates out, linked to another word associated with the starting concept word. From this central line, thinner lines send out radial shoots. Each radial is connected to an off-shoot idea. You can then build up a root-system picture of your thoughts and responses linked to the central idea or concept. The picture below shows how the mind map functions.
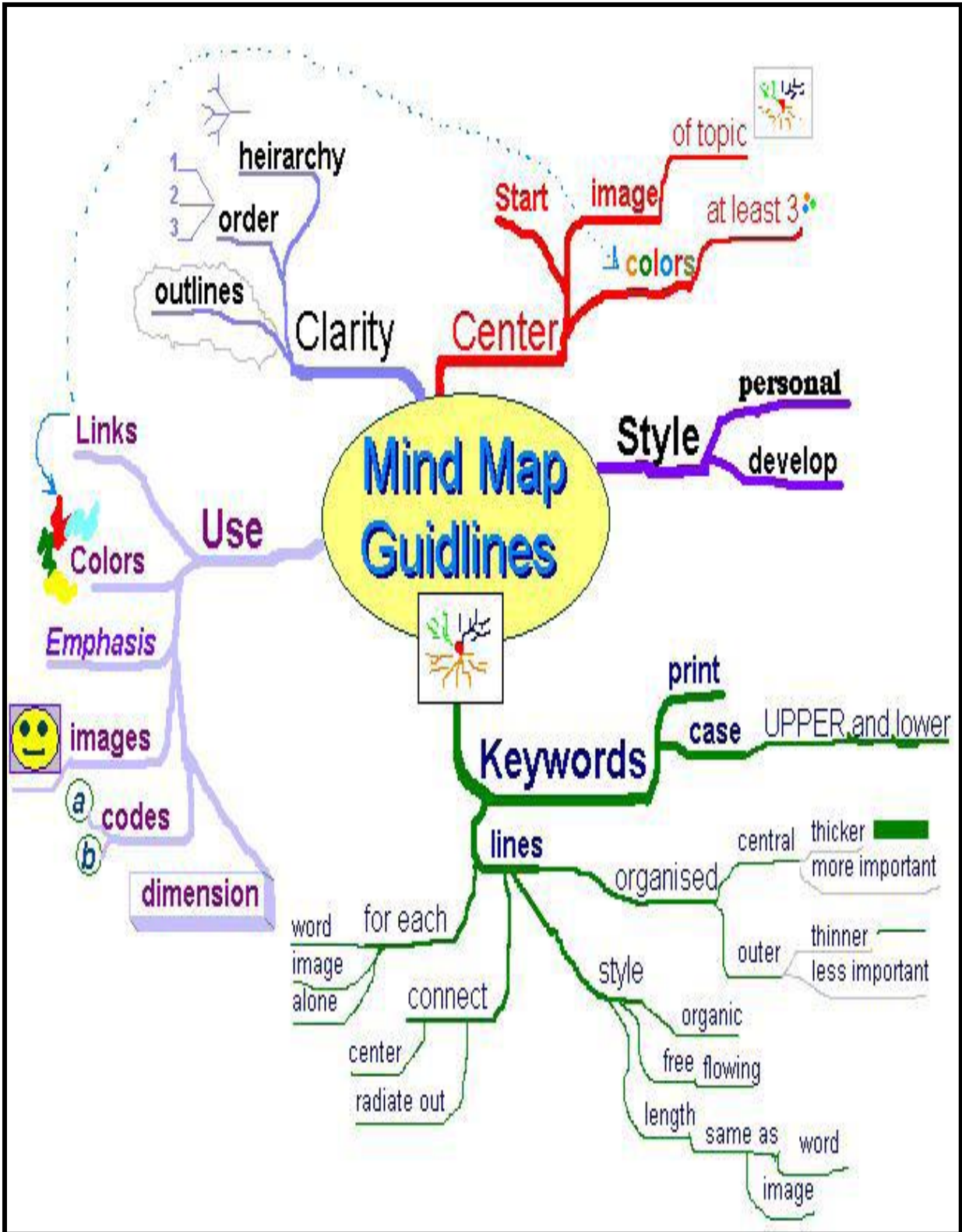
(Figure 01: Mind Map) (Wikipedia 2006)

Buzan argues that the approach works best if people relax and let their minds go free and be unrestrained by conventional thinking. He argues it encourages creative approaches to thinking and problem solving, as one thought sparks off another. Mind-mapping is claimed to be effective in helping people to visualise, structure and classify ideas. Buzan has been successful in promoting his idea, and it has found many advocates in the world of business, education and training. In addition, it is likely to appeal to people who like to work visually and who particularly like the free-association of ideas approach at the heart of mind mapping. Although there are many commercial software products on the market which produce attractive mind maps, these are certainly not essential or necessary, as the following illustration of a hand-drawn map shows (from Wikipedia 2006).

The main advantages of mind-mapping would appear to be from the release of ideas that is encouraged by the process. The technique, therefore, may be particularly useful in examinations, as a way of pre-answer note taking to identify and connect the different elements that form part of an answer. Mind-mapping can also be a useful approach to exam revision, as the process can reveal what you know about a subject, and, perhaps more importantly, what you do not know – and therefore need to learn.
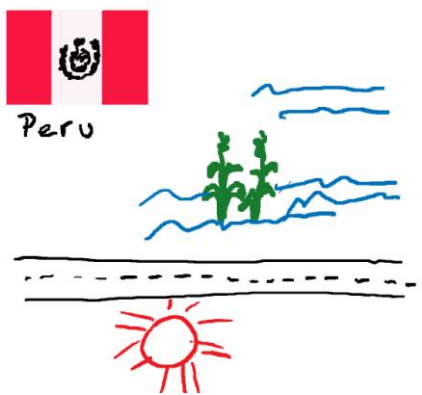
B.2.Two-Column Visual Notes

The two-column visual notes in this section are based on the Cornell note-taking method. Basically, the Cornell method organizes a piece of paper into two columns: on the right notes and details are recorded, while on the left cues for those notes are recorded. A typical two-column entry might look like this:

Cues	Notes and Details
Incas and their Culture	
Historical Background	Lived along the coast of Peru, From 1800 to 1400 B.C.E. Developed irrigation to water their crops with terraces and canals. Great builders of roads. Worshiped the sun

(Table 03: The two-column visual 1)

While this method is quite useful, it can be enhanced with the inclusion of visual cues and images in the column on the left. The following example has been developed by Joanne Ho, an exemplary teacher at Clark High School in Las Vegas. Thus, these same notes from above might look like this:

Cues	Notes and Details
Incas and their Culture	
Historical Background 	Lived along the coast of Peru, from 1800 to 1400 B.C.E. Developed irrigation to water their crops with terraces and canals. Great builders of roads. Worshipped the sun

(Table 04: The two-column visual 2)

By adding the images to the column of cues on the left, the student is given information that is related in a meaningful way to the detailed information on the right. Because of students' problems with language, reading and writing, these types of notes are found to be quite useful for them. However, this visual two-column note method is not limited to use with students who struggle in school; students in honors and gifted classes have also benefited from using this method.

To create notes like these for students, create a Word document with a two-column table and insert the verbal information. Print or copy the document onto an overhead transparency and during class the teacher draws the small images onto the page. Also students are encouraged to suggest the image cues used on the overhead and are also encouraged to use their own images wherever possible.

Teachers can modify this lesson strategy to model how to take notes by providing students with a copy of the notes without the drawings and the verbal information partially incomplete. The students can then fill in the images and/or fill in the spaces that are left by the teacher.

As a studying tool, this visual, two-column method allows the student to either fold the paper in half vertically or cover the right side of the paper and then use the visual and verbal cues on the left to recall the information on the right. According to the teachers' observation, these notes help students to recall impressive amounts of details about the cultures and the creation myths that we read and discuss through these notes.

B.3.Image note

Image notes contain very few, if any, words and can be a great tool for introducing characters from texts with complex plots. Below is a portion of an example used to introduce students to the back story of *The Odyssey* through a visual/oral telling of *The Iliad*.

The visual notes for *The Iliad* (right) are accompanied by a great deal of language to describe an abbreviated version of the story. Students copy these notes, adding their own embellishments of the drawings on their own paper. During class, the drawings are markers for the major events in the telling; after class, the drawings are cues for important details that will inform the students' reading of *The Odyssey*. Simple stick figures like those found in this drawing can help the teacher to quickly draw the relationships among characters and alleviate fears of not having professional skill in drawing. Teachers could also enlist a student who likes to draw to illustrate the story as s/he tells it.
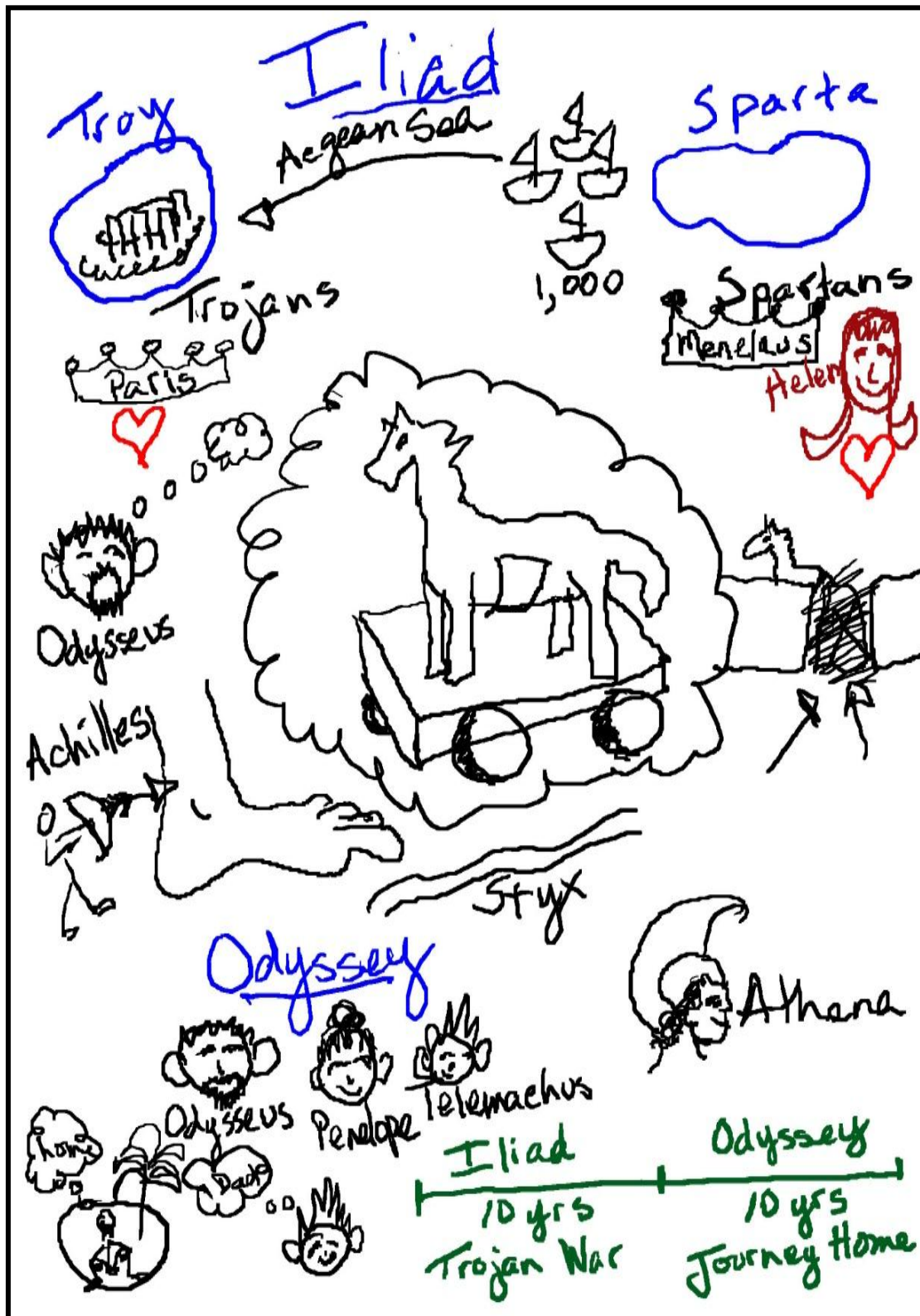
(Figure 02: Example of Image note)

B.4.Image and Text Box Notes

A third type of visual notes uses small drawings as cues and text boxes as spaces for taking verbal notes. The example below was part of a reading guide handout that has been given to students for later episodes in *The Odyssey*. As a reading guide, students recorded information as they read the episodes. While the drawings have been provided for the students, they have been encouraged to add details to help them understand the reading. The handout has been then used as a study guide for a final exam on the text.
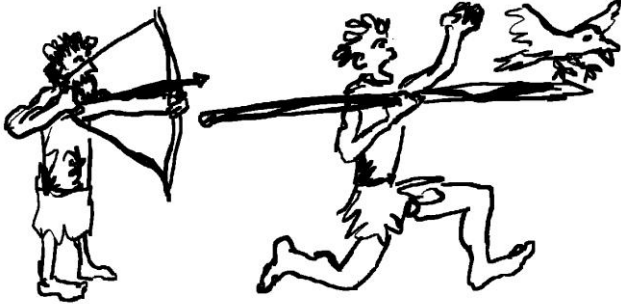
Figure03: (Example of Image and Text Box Notes)

B.5. Concept mapping

At first glance, mind maps and concept maps (CMaps) appear to be very similar in appearance. However, the essential difference is that a mind map has one central concept, from which ideas flow, whereas a CMap is a network of linked concepts. Concept maps are particularly useful to seek answers to a particular question, called a *focus question*. The main advantages of CMaps appear to be in helping students to identify and link key concepts by organizing and analyzing information. The result can also be imported into assignments or into PowerPoint displays to illustrate, graphically, understanding of linkages between ideas.

There is more positive research evidence about the impact of concept maps in educational settings. But, they do not suit everyone and the software take practice and persistence to use. It may be too, that people who prefer more linear maps do so because these represent the final outcome of a thinking process that is similar to that illustrated in concept maps; they feel they do not need to show the process : the outcome is presented in the form of bullet points or other linear summary notes. However, this is not essential if you are producing concept maps for personal note making purposes, as you can produce hand-drawn versions, which can serve the same purpose of helping you connect reading done on a particular topic; see the example below. This student constructing the 'Food Trail' map below has some drawing ability, but this is by no way essential (Note the focus question below at the start: 'Where does your food come from?")
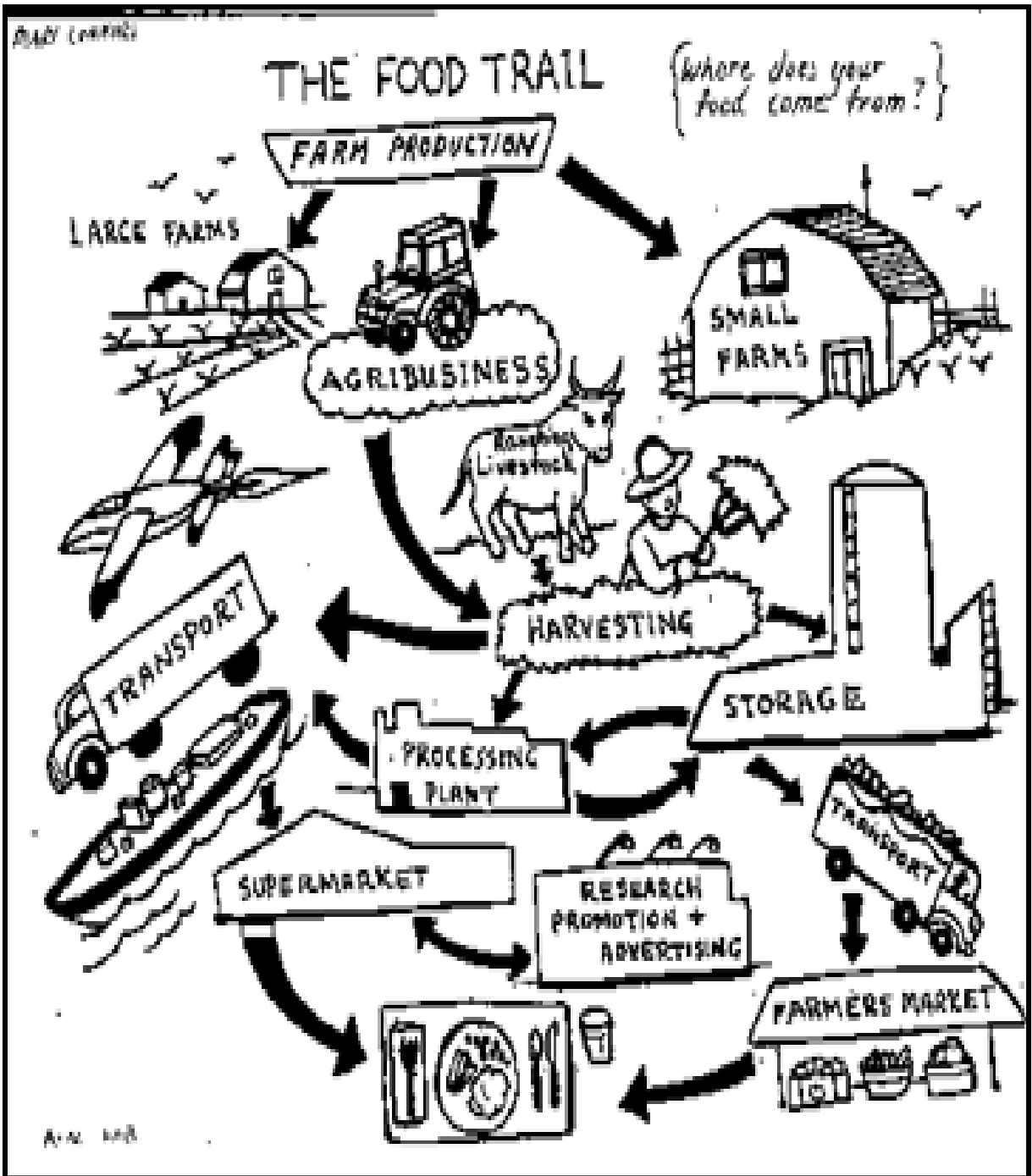
(Figure 04: Concept Maps)

B.6.Fishbone diagrams

Fishbone diagrams, or 'Ishikawa diagrams', named after Professor Kaoru Ishikawa, the originator, are useful for analysis to identify and illustrate cause and effect issues in any situation. The problem is identified (tip of arrow) and 'side bones' are added, as appropriate, to build up a structure perceived to be contributing to the 'effect'.
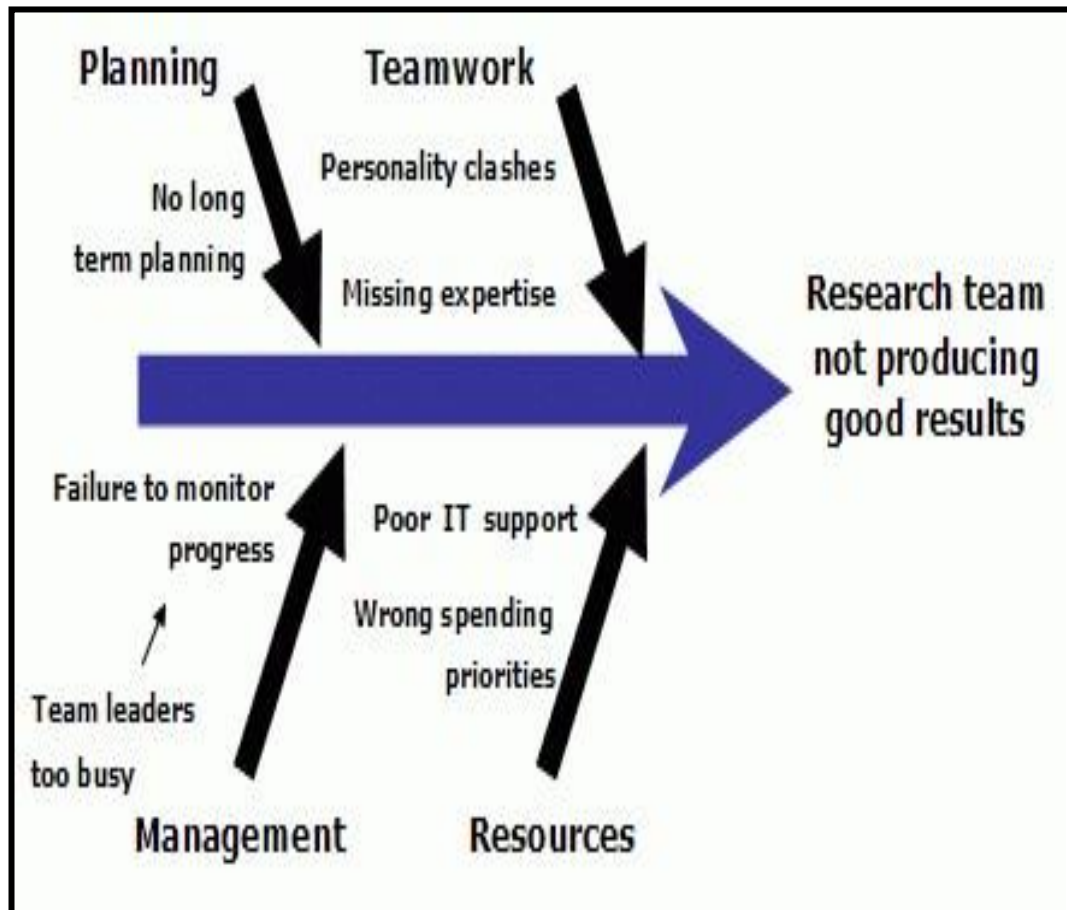
(Figure 05: Fishbone note) (LauandChan2006).

These diagrams are now used regularly in quality management and are particularly useful for group analysis and discussion of a problem, as illustrated above. However, they are also useful as an individual form of note taking, especially if you need to build a note picture of a cause and effect situation in preparation for writing an assignment or tackling an exam question.

B.7.Using word graphics to create pattern notes

The diagram gallery is on Microsoft Word to create pattern notes. Going to 'Insert' on Word and click on 'Diagram' to select suitable pattern notes.

Example 01:

```
┌─────────────┐
│ Main point  │
└──────┬──────┘
       │         ┌──────────────────┐
       ├─────────┤ Supporting point │
       │         └──────────────────┘
       │         ┌──────────────────┐
       ├─────────┤ Supporting point │
       │         └──────────────────┘
       │         ┌──────────────────┐
       └─────────┤ Supporting point │
                 └────────┬─────────┘
                 ┌────────┴─────────┐
                 │ Supporting point │
                 └────────┬─────────┘
                          │      ┌──────────┐
                          └──────┤  Source  │
                                 └──────────┘
```
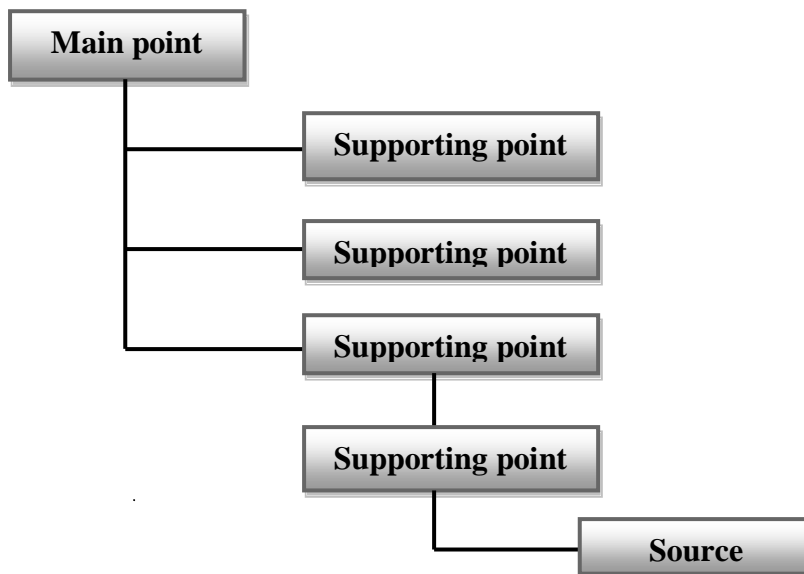
Figure06: (Example of diagram of pattern notes)

Example 02:
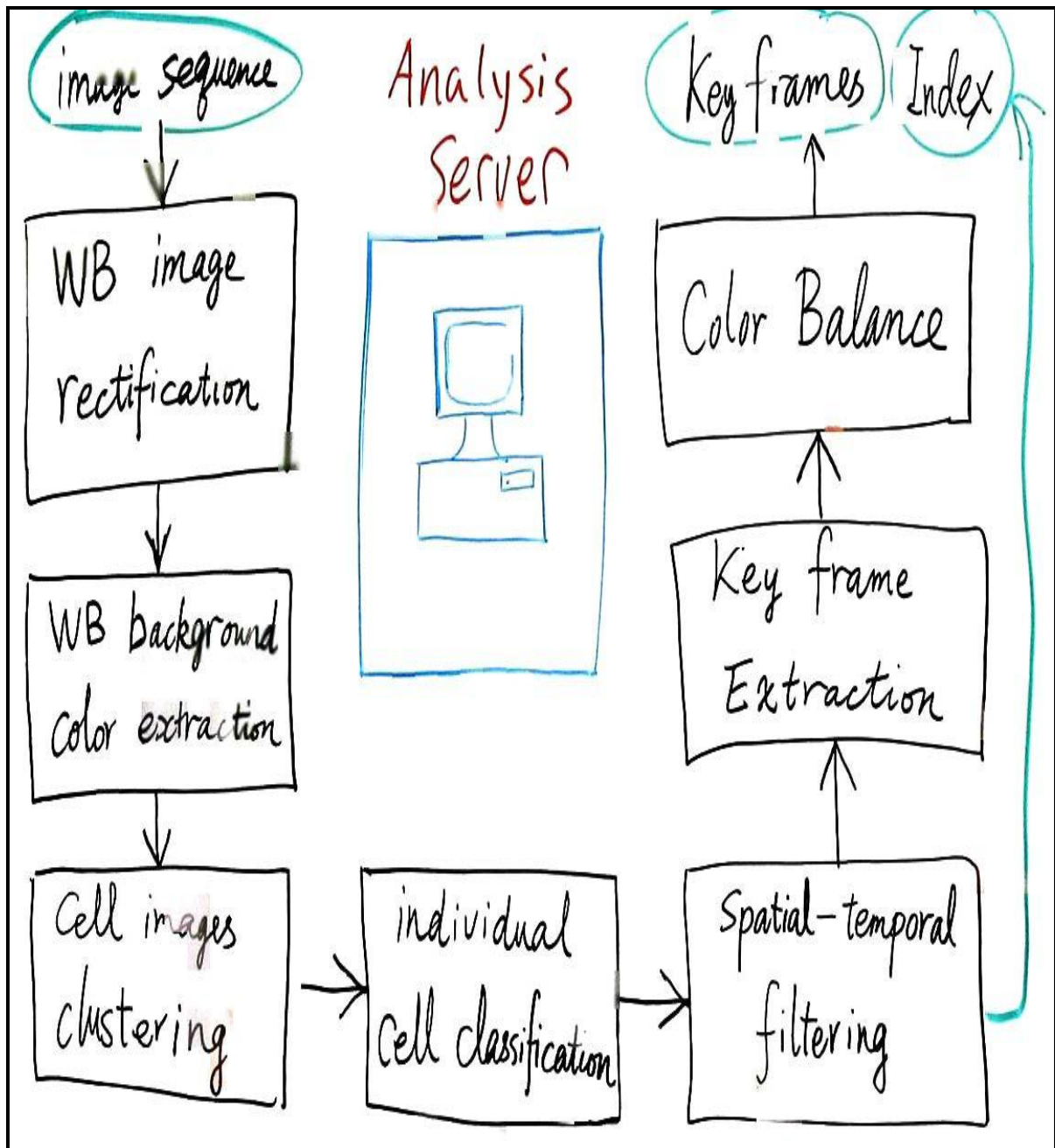
(**Figure 07: the diagram gallery on Microsoft Word**)

C.Voice notes

Voice notes can be summarized in the four main points below.

1) Using a voice-recorder/Dictaphone to summarize the key ideas verbally can work well for some students, as it can help them to concentrate on reading and to summarize in their own words what they have read.

2) The process of summarizing what is read heard or seen into your once words can, therefore, help to focus on the main points and select the right words to express a particular idea.

3) Listening to once own voice summarizing notes you have made with own words is a powerful aid to memory and can be a particularly effective tool for revision (Cottrell 2003).

4) The tapes can also be replayed in many situations away from the library or allocated reading areas, e.g. listen while you exercise, drive or travel on public transport.

II.2.2.Aids to note taking

A. Underline or Highlight

1) It is necessary to read a section completely before marking it. Because underlining/highlighting at the beginning of reading read, leads to the risk of marking information that is not important for the purpose.

2) Decide what level of information is needed--main ideas only; main ideas and major details; terminology only, etc. and marking only those portions that meet the purpose. Underlinning/highlighting almost everything on the page, it is no more helpful than if nothing is marked.

B.Annotate (write margin notes)

1) After reading a section; then writing words and phrases in the margins that summarize the information needed to know; and marking important information with abbreviations such as *def* for definition, *ex* example, * for key point; jot questions that challenges to the author's ideas.

2) After reading and annotating a section, think about how/what reading/writing relates to the questions setting out for during preview.

C. Distributing instructor notes

Instructors might also consider handing out partial to full copies of their own lecture notes. As Kiewra argues (1985a), instructor notes can effectively supplement students' notes by answering their accuracy and comprehensiveness. Instruction on note taking and tips sheets: Instructors, particularly those who teach first- and second-year students, can take time in class to talk about how to take notes for their courses.

D. Attendance and dependence

Handing out the instructors' notes raises concerns about student attendance and students' potential dependence on external aids that may hinder mastery of listening and note-taking skills. Instructors concerned about attendance have several options:

a- Making handouts skeletal enough that students need to be present in class for the notes to be useful.

b- Using class time for activities and interactions that will enhance learning and cannot be reflected in simple written summary or outline form.

c- Document the impact of attendance on exam performance and convey that information to students.

d- Kiewra claims that attendance is required. This means that when students receive instructor notes, in the short-run, students may perform better on tests of mastery of factual material, but in the long run, students may not learn to organize ideas because of a dependence on external aids (Kiewra 1985b, 385).

Note taking falls into three main groups: linear; visual/pattern; and audio. Effective note taking methods are those that best encourage the process of review and recall of what has been learned, and encourage integration of your own perspectives, comments and reflections. Although all methods have their advocates and champions, no one method has proven to be more effective than another. Personal preferences and individual learning styles need to be taken into account, and it is worth experimenting with a number of different approaches to discover what works best for any student. There is considerable scope too, for experimentation by 'mixing and matching' styles of note taking and making. Commentators agree, however, that reviewing and discussing your notes with at least one other person is particularly helpful for effective learning.

II.2.3.Note-taking behaviors

Many insights are gained when evaluating the contents of students' notes. In order to do so, students' notes must be coded with regards to the ideas contained within. These content analyses are somewhat underrepresented in the researches about note taking (Kiewra et. al. 1984). Here we are going to discuss the most important behaviors that have been addressed most thoroughly in the domain of note taking.

A. Verbatim Notes

Verbatim notes are what students transcribe word for word from either lectures or readings. As Carter points out, "note taking is more likely to resemble verbatim transcription of the sort that occurs with copying frames in programmed instruction, than the more beneficial elaborative activities associated with meaningful learning" (Carter & Van Meter, 1975).

Verbatim note-taking is quite common. Bretzing & Kulhavy find that sixty percent of notes taken while reading or listening to lecturers were recorded in a verbatim format (Bretzing & Kulhavy, 1981). Others find that verbatim note-taking is a persistent behavior because of its unconsciousness. Van Meter claims that Students have clear strategies for taking verbatim notes, they use them to record definitions and to help them review the lectures' content (van Meter et. al. 1994). Peper and Mayer (1986) find that students who take notes in their own words perform worse on immediate recognition tests, but better on problem solving.

More studies examine the value of verbatim note-taking while reading. According to Quade, verbatim note-taking produces better learning outcomes than paraphrased note-taking this is due to some reasons like low level of students' language (Quade, 1996). In other words, they may paraphrase the lecturers' saying or written material incorrectly; however, when taking notes word for word they will avoid many mistakes and they will concentrate more and then get good marks.

B.Wordiness

Wordiness is the use of more words than are necessary to convey meaning in speech or writing. It is calculated as the total number of words in notes divided by the total number of ideas and expresses a given idea. Some researchers believe that wordier notes should be

encouraged because they increase elaboration of the learning material, and it also represents more time spent rehearsing the ideas being recorded.

C.Presence of Ideas in Notes

Crawford finds that presence of ideas in notes is associated with learning (Crawford Nov 1925).In addition; he asserts that an idea recorded in notes during lecture is more likely to be recalled than an idea not present in notes. Another research has been conducted by Dyer claims that if students do not reread the material, ideas that are not present in notes are more likely to be missed when tested (Dyer 1979).

The presence of an idea in notes appears to be important, especially when students cannot review the material. This raises an interesting question regarding what information is important to record. It is clear that students should record ideas that they will be asked to recall.

D.Individual and Content Factors

There are a variety of individual traits and content factors that have been implicated in note-taking outcomes. According to Rickards, one of the important content factors is signaling. He believes that note taking is useful in lectures when signaling is used. Those signals involve emphasizing important concepts being instructed (e.g. "this is a key point"). (Rickards 1997). Now we are going to talk briefly about one of the most current individual factors which are students' age. Age appears to be an important individual factor of note takers. Younger note takers are less confident in their note-taking abilities, and those who are less confident perform worse on learning outcomes (Carrier et. al. 1988). Schellings points out that younger students have immature note taking strategies (1995). Older students may thus be more resistant to note-taking interventions. Students appear to have developed strategies after their first year in college because their cognitive abilities are developed.

E.Restrictions

Many studies of note-taking in the context of reading intervene on the note-taking process by restricting the number of notes students can record. The reasoning behind restrictions is fairly straightforward. Johnson states "certainly, the amount of underlining must be controlled… otherwise a few subjects underline everything or underline nothing" (1988). Many studies find that restrictions were better for remembering details because when students limit the number of words taken in their notes facilitate the process of memorization of lectures' content and consequently do well in exams (Santa et. al. 1979).

II.2.4.Cognitive processes

Taking notes, as it has been mentioned before, is a complex process and includes cognitive processes. These cognitive processes occur in the mind of students and include two main mechanisms that are called "focusing/attention "and "elaboration/generation ". Below, we are going to explain them briefly.

First, focusing/attention is when "note taking forces learner to pay more attention to the presented material" or to "process the material more deeply." (Qtd from Peper and Mayer 1986). Van Meter says that while students report using note-taking to avoid distraction, the question remains as to how note-taking focuses students' attention? Reder answers to that by claiming that such rehearsing of reading material results in improved memory (Reder 1985).

According to Kintsch, note taking may also encourage students to identify the critical components of the idea being recorded, which can be seen in the wordiness with which an idea is recorded. Reduced wordiness would also reduce short-term memory load. So note taking may encourage students to spend more time rehearsing the most critical components of the ideas they are recording, which would increase the chances the idea will be strongly linked in the text base (Kintsch 1998). Besides, Note-taking may also help students identify

the key ideas within the learning material. As Johnson states (1998), note-taking "improves retention of passage material when it focuses students' attention on identifying ideas of high structural importance."

Second, elaboration/generation is when note taking promotes learning by connecting multiple knowledge components. This requires that "additional cognitive processes are involved; for example, the degree to which the learner is able to actively relate the material to existing knowledge." (Qtd from Peper and Mayer 1986). This may involve generating links to prior knowledge, or even connecting distinct concepts within the learning materials.

All in all, Focusing and Elaboration are introduced as two cognitive processes by which note taking encourages learning.

II.2.5.How can note taking be taught?

Note-taking is one of those skills that are rarely taught. Teachers and professors assume either that taking good notes comes naturally or that someone else must have already taught students how to take notes. Taking notes is a complex process and many scholars like Stahl, King and Henk claim the obligation to teach it. Teachers should at least focus on those three skills while teaching their students how to take notes: comprehension through note taking, producing notes, and the conscious management of the activity as a whole (Stahl, King & Henk, 1991).

- **Comprehension through note taking**

Very little work has been done on learning conditions and measuring the evolution of the knowledge and skills used in note taking, whether for school or university students. Vigner said that, at the school level, comprehension is most commonly taught through the production of summaries (Vigner, 1991). Producing a summary involves sorting, selecting

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and combining the information contained in a text with a standardized language format (respecting spelling, syntax, linearity of the text). A student who masters the art of summarizing will be able to take notes in the form of "data sheets," but summarizing is a difficult comprehension exercise to master, even for adults.

- **Producing notes**

When taking notes, students do not follow the same conventions as for the production of standard text; spelling, syntax, and the layout of information on the page are subject to significant changes. This variability has consequences on the nature of the training that students should be offered. All students would benefit from making certain operations automatic. Analyses of students' samples of note taking show that, within one lesson, students sometimes use several different representations for the same word showing that they are unsure about which representation to choose (Barbier, Faraco, Piolat, & Branca, 2004; Branca-Rosoff, 1998). Moreover, abbreviations that are used in notes should be understandable and unambiguous.

According to Bourdin, learning how to take notes from a spoken presentation, in terms of spelling, and syntactical processes, is a slow and gradual process (Bourdin, 2002). This is undoubtedly one reason why there is very little teaching of note taking skills at the pre-university level. Teachers in secondary schools are faced with teaching objectives that are not really compatible. Teaching how to condense information through the use of abbreviations leads to clashes at two levels: first, between teaching correct spelling, which is never completely successful, and abbreviation techniques that alter words; second, between the syntactical organizations of ideas. That is why; some studies have placed the emphasis on the use of note taking methods, such as tables, diagrams, and concept mapping that is largely based on the use of key words.

Garcia-Debanc suggested that teachers should teach their students how to Skip   lines, leave spaces, and use separators (Garcia-Debanc, 1990). Another study conducted by Bessonat shows that teachers should provide their students with a written document on the lecture for one hour, during which they could take notes at, will.

Each of these suggestions was then subject to special training in which the students willingly participated. We believe the interest of these instructions have a relationship, from a pedagogical point of view, with two major functions that are an integral part of note taking: writing to learn and learning to write.

- **The conscious management of the activity as a whole**

The complexity of the cognitive operations and the knowledge involved in a process such as note taking require note-takers to actively control what they are doing and to master the way they work. This metacognitive knowledge allows them to plan their activity, to evaluate it and regulate it (Rémond, 2003).

II.3.LECTURE COMPREHENSION AND LEARNING PERFORMANCE

II.3.1.Lecture comprehension

Lecture comprehension is when students understand any teacher's oral presentation intended to present information about a particular subject. Also, lecture comprehension means the good transmission of knowledge provided by the instructor.

Lecture characteristics should be taken into account in this study. The following description should help us determine the demands of students who need to understand these lectures and take useful notes on them. When we describe the lecture we should distinguish it from other types of discourse. The discourse of academic lectures is different from both written and oral discourses that is why students should be aware of the characteristics of

academic lectures in order to comprehend them and consequently to take effective notes from them.

Academic lectures are different from written and oral discourses. Oral features like hesitation, repetition, and pauses reflect the spontaneity and fast pace of spoken discourse. However, formal lectures are, in fact, oralised prose. Some lectures may contain features generally associated with written discourse. When lecturers read from notes, discourse becomes more formal and elaborated. Another difference is that lectures are usually longer than conversations and contain less interaction. After talking briefly about the academic lectures, now we tackle another important point that can be sorted out from Academic lectures which is University lecture.

II.3.2.Taking notes from lectures

Note taking is a complex process because it rests upon comprehension of lectures as well as production of notations mainly on what was understood from lecture content. Note taking requires the use of key strategies including selecting, paraphrasing and reducing lecture text with the help of symbols and abbreviations.

Benson claims that efficient note takers use a selective strategy to note down important information (Benson 1989:436). Students should always wonder whether they need to remember and note down what lecturers are saying or not. This strategy is useful to focus on important information and filter out redundant examples. Efficient note takers use lecturer's cues to select useful information. In Benson (1989), the lecturers appear to influence their students note taking. The subject takes more notes when the lecturers use meta-language to signal the importance of what is going to be said (pp 234-235).Lecturer's cues may include verbal signposting like "This is important " or non-verbal ones like going to the blackboard to

note down something (Fisk 1982, cited in King 1994 :223). Actually, note takers should be able to use all the verbal and non-verbal markers that signal importance of input.

Visual information is often crucial to lectures. King (1994) finds that lecturers often indicate what the students are expected to do with the visuals. Lecturers either encourage the students to take notes (e.g. "I want you to use this in your revision of these notes ") or indicate that something is not worth nothing (e.g. "I don't think there is any need to take this down "). Fortunately for note takers, lecturers provide not only information but also assessment of the information as well for the purpose of helping the audience take good notes.

Lecturers can help students to take notes by providing outlines of lectures to assist the students in organizing their notes. Lecture outlines are provided in advance in order to facilitate the process of taking note effectively. In addition, outlines represent a framework that note takers can fill in with relevant details, such lecture outlines are often not available and the students have to select lecture content on their own. Due to time constraints in lecture contexts, efficient note taking requires a key strategy which is reduction of the original input. Good note takers eliminate unnecessary text from the notes. Dunkel (1988) notices that ineffective note takers write more structured words. She concludes her study of EFL note taking in these terms: "… some [EFL] students need practice in detecting and recording of information carrying words while simultaneously ignoring (for purposes of note taking) structure words and other syntactic elements (e.g. past tense markers) that do not add to the informational load, but increase the total number of notations placed in the notes ".

She also finds that verbatim note taking strategy during lectures is not a good strategy for encoding lecture content (Dunkel 1988: 269-270).Some students feel reassured by noting everything the lecturer says. But this strategy involves risks of note taking speed becoming much lower than the lecturer's speech rate.

- **Student guide to effective note taking in lecture**

Good note taking is much more than fast writing. Good note takers listen actively while they write, think while they listen, and make conscious choices about what to record. In general, they capture as much of the lecture content as possible. They take notes they can use for effective learning, then, they review those notes regularly with focused attention and consequently they get better marks.

Before lecture:

Do assigned readings.

➢ Check syllabus.

➢ Reading before class will help you identify, understand, and organize main points and content in the lecture and class discussion.

Organize.

➢ Keep on notebook per course.

➢ Loose-leaf binders with pockets give more flexibility in organizing your notes and allow you to add handouts and other material in a useful order.

Engage fully.

➢ Be positive about learning.

➢ Plan to start listening as soon as the instructor starts talking: tune in, have your pen and paper ready, do not let others distract you.

➢ **During lecture**

Listen for structure.

➢ Listen for introductory and concluding phrases and transitions indicating how the lecture is organized (Today's topics will include…)

➢ If the instructor begins lecture with questions, write them down, then listen for the answers.

- ➢ Listen for repetition.

- ➢ Listen as closely to the end of the lecture as to the beginning. The instructor may summarize the most important points (Today we discussed…)

Be complete and accurate.

- ➢ Write down key points, theories, facts, definitions, etc.

- ➢ Write down examples and indicate the point(s) they demonstrate.

- ➢ Write down anything given in list form (Three causes were…).

- ➢ Write down what is written on the board or projected on screen.

- ➢ Pay attention to the instructor's body language and tone of voice. Note when she/he uses the most emphasis or enthusiasm.

- ➢ Listen for main points, but generally, writing more is better.

Keep up.

- ➢ Abbreviate. Every subject has words that can be shortened. For example, use **S** for Shakespeare, **b/c** for because, etc.

- ➢ To save time, use a system of symbols. For example, use ➜ for resulted in, = for is equal to, > for is greater than. Develop your own symbols too.

- ➢ Leave space if you fall behind or get confused. Circle terms you do not understand. Write question marks next to places you want to clarify later, but do not stop taking notes.

After lecture

Review within 24 hours.

- ➢ Compare notes with classmates to supplement or clarify what you wrote down.

- ➢ Locate gaps or confusion. Ask peers, or the instructor for help in class.

- ➢ Check for accuracy of material (especially formulas, definitions, spelling of terms).

- ➢ Identify connections with what you already know and with material from previous class meetings. How does material extend or clarify your knowledge? What is the « big picture » that is starting to emerge?

Reorganize and rehearse.

- ➢ Reorganize your notes visually. Create an outline, diagram, or chart to show relationships among concepts.

- ➢ Use different pen colors or highlighters for different types of material, or to distinguish your ideas from the instructor's.

- ➢ Try writing brief summaries of the information in your own words.

- ➢ Review your notes regularly to improve your understanding and to prevent cramming at test time.

- ➢ Make up and answer possible test questions

Evaluate your method.

- ➢ Are you finding a lot of gaps and errors?

- ➢ Do your notes help you study? Did they help you on your exams? If not, what can you do to improve your notes?

- ➢ If you feel that your notes are not helping you learn, and you do not feel that you know how to improve them, seek the assistance of your instructor.

Prepared by Jennifer Lurman, Center for Research on Learning and Teaching (CRLT), 2001.

II.3.3. The role of note taking in lecture comprehension

Note taking maybe considered as an integral part of the process of lecture comprehension. James (1977) supports this view and sees lecture comprehension as a process that leads in note taking (1977, cited in Flowerdew 1994: 11). Besides, as Chamot et al (1988, cited in Cornaire 1998:61) point out while working on learning strategies that the process of note taking merges largely with the comprehension process. In fact, note taking depends greatly on comprehension because taking notes is essentially recording understanding.

There seems to be a general agreement among university students and lecturers about the importance of note taking as a study skill for academic studies. This sub-section examines what the research community thinks of the effects of note taking on lecture comprehension and in what way can note taking play a role in comprehension. This sub-section briefly speaks about two different views.

According to Dunkel (1988:259), note taking may facilitate learning from lectures in two ways: a- the "encoding function "and b- the "external storage function ". In her words, for the first function, note taking, as a process, may help " learning and retention of information by activating the learner's attentional mechanisms and their cognitive processes of coding, integrating, synthesizing and transforming the oral input into personalized representations meaningful to the learners ". On the other hand, "external storage function ", the lecture notes here, represents an instrument for learners to store useful information. The latter may be used for review to assist students in recalling lecture content.

A number of reasons may account for the different results about the function of note taking in the lecture comprehension process. These include, for example, the choice of competent subjects to focus on comprehension and take few notes. Further details on this issue can be found in (Rost 1996: 125 and Ganke 1981, cited in Dunkel et al. 1989: 545). The difference of study conditions may well be responsible for the difference of the results. Some

studies involve pre-training in note taking given to the subjects beforehand (e.g. Chaudron et al.1994), while others do not. Effects may also be expected to be related to the review or non-review of lecture notes. Effects may also be expected to be related to the review or non-review of lecture notes before the administration of the experimental lecture comprehension test. Besides, the type of the test measure utilized (comprehension questions, multiple choice questions, etc.) may contribute its own effect on the differing results. These factors affect lecture comprehension and its assessment.

On the basis of the reasons mentioned above, note taking has a positive effect on encoding lecture information; we shall assume that taking effective notes is an efficient learning strategy for students than writing down random notes. Dunkel (1988) concludes that "taking lecture notes is widely accepted as a useful strategy for augmenting students' attention and retention of academic discourse… that [it] facilitates the process of learning and retaining of lecture material ".

II.3.4.The impact of note taking on learning performance

In general, students take notes in order to record information that they will need to learn at a later date. However, Kiewra finds that the result of taking notes is much more than the production of a passive "external" information store, as the note taking action itself is part of the memorization process and results in the creation of a form of "internal" storage (Kiewra, 1987). Furthermore, the taking of notes seems to ease the memory work and thereby helps students resolve complex problems.

Note-takers are assumed to re-read their notes as many times as necessary to learn their content. Several studies compare different ways of using notes (reading, highlighting, summarizing) and the impact of the different sources of information that are used during the learning process (handouts provided by the teacher, textbooks, student notes: Rickards, Fajen,

Sullivan, & Gillespsie, 1997; Titsworth, 2001). Thus, according to Kiewra, Benton, Kim, Risch, and Christensen, it is better to highlight notes than to simply read them, and better again to summarize them (re-write them) than highlight them (Kiewra, Benton, Kim, Risch, & Christensen, 1995).

The high degree of concentration while taking notes is an important factor in understanding and learning the knowledge. In other words, taking notes requires the attention to be more precisely focused on the access, sorting, and coding of the information than it would be when simply listening to a speaker or reading a document (Piolat, Olive, and Kellogg, 2004). Van Metter et al collect students' Comments that refer to the fact that taking notes helps them remain attentive (van Metter et al. 1994). Note takers should follow methods based on the selection of ideas, organization of the information on the page and linkage between the pieces of information presented during the lesson. Then, they will make stronger connections between the information being received and that already stored in their long-term memory. This way of processing information is known as "the generation effect" (Foos, Mora, & Tkacz, 1994). Furthermore, a later review of the notes, whether or not it is associated with a re-organization of the information, reinforces the integration of the knowledge and its storage in the long-term memory. This learning has a positive effect, both on score in knowledge tests and on the composition of essays using the knowledge previously noted (Slotte & Lonka, 2001).

II.3.5. The support of faculty towards note taking

Many studies of note taking find that review of notes (one's own, borrowed notes, or notes provided by the instructor) significantly improve recall of lecture material. Kiewra et al (1991) find that students who take notes but do not review, earn lower exam scores than students who review notes prior to the exam.

Davies believes that the poor quality of student notes may reflect not only a lack of skills necessary to take accurate and complete notes but also the complexity of the task. They also think that note taking involves listening to new and often unfamiliar information. Transcribing that information quickly enough to keep pace with the lecture, and deciding how to organize the material to reflect the relationships stated by the speaker. In addition, they notice that students have difficulty organizing lecture material and identifying main points (Davies, 1976; Jackson and Bilton, 1990a, 1990b).Furthermore, Johnstone and Su find that students face difficulties with lecturers who speak too quickly, fail to present a clear outline at the beginning of the lecture, or fail to signal important information (Johnstone and Su, 1994). Faculty lecture (organization and pace) and what do during lecture (like giving handouts, writing on the board, emphasizing and/or repeating important material and summarizing complex information), strongly affect students ability to take notes in other words if the lecture is well organized, the teacher's pace is not quick this would facilitate the note taking process and vice versa. All in all, faculty can improve their student's note taking ability by focusing on three areas: lecture strategies, the use of handouts, and strategies for engaging students. These strategies will be discussed in the coming section.

CONCLUSION

The central question motivating the research described in this dissertation regards how note-taking changes students' performance. While studies have shown that taking effective notes affects how students do in their exams.

This work evaluates the way features of note-taking applications affect behavior, and how differences in behavior affect performance on learning outcomes. In the previous chapter we defined the note taking skill from an academic point of view. In addition, we talked deeply about different procedures and theories of this strategy by focusing on note taking behaviors

and cognitive processes. Moreover, we showed how teachers should teach students how to take effective note taking.

Finally, we concluded the chapter by focusing on the role of taking notes in both lecture comprehension and learning performance.

CHAPTER III:

RESEARCH METHODS

INTRODUCTION

The main concern of the present study is to probe the relationship between note-taking strategy and students' achievement. To conduct the study, an experiment has been administered to the second year students and then fifty students has been selected to enter into the next phase of the experiment (quiz). They have been then randomly divided into two groups: group A (uninstructed note-takers). While group B (Cornell note-takers).

III.1.METHOD

We attempt in our work to lay ground for the assumption that taking notes effectively in the general culture course would improve students' achievement and knowledge of this module, we think that the experimental design would fit best the outlined objectives. The experimental method is believed to suit our research since it permits a close examination of the effects that note taking skills may have on the students' learning performance. The experimental method is among the best tools which establish and verify the cause / effect relationship between the dependent variable, in our case, students' improvement in the general culture course, and the independent variable being the impact of using effective note taking skills.

In the simplest type of experiment, we create two groups that are "equivalent" to each other. One group (the program or treatment group) gets the program and the other group (the comparison or control group) does not. In all other respects, the groups are treated the same. Now, if we observe differences in outcomes –after treatment- between these two groups, then the differences must be due to the only thing that differs between them -- that one got the program and the other did not.

III.2.POPULATION

The problem of the students' low marks in general culture module is widely seen among second year students. Partly, this is explained by the lack of attention and poor strategies of taking notes. This, however, does fully justify their attitudes to the course, other points like the tools and techniques used during the course seem to explain the issue better. To investigate this topic we will choose students from the second year, divide them into two groups. The first one will be the control group and the second, the experimental group.

We will apply the experiment, which is to give the first group a template of taking effective notes while the second group will take notes randomly during fifteen days, and then we will compare the performance of both groups to see whether or not taking effective notes during general culture course made a difference between the two groups.

III.3. SAMPLING

How do we create two groups that are "equivalent"? The approach used in experimental design is to assign people randomly from a common pool of people into the two groups. The experiment relies on this idea of random assignment to groups as the basis for obtaining two groups that are homogenous. Then, we give one the program or treatment and we do not give it to the other. We observe the same outcomes in both groups.

The key to the success of the experiment is in the random assignment. In fact, even with random assignment we never expect that the groups we create will be exactly the same. How could they be, when they are made up of different people? We rely on the idea of probability and assume that the two groups are "probabilistically equivalent" or equivalent within known probabilistic ranges.

So, if we randomly assign people to two groups, and we have enough people in our study to achieve the desired probabilistic equivalence, then we may consider the experiment

to be strong in internal validity and we probably have a good shot at assessing whether the program causes the outcome(s).

Working with the whole population of second year students is a difficult task. It requires more efforts, material, resources and time. For these reasons, in doing research, it is preferable to work with a sample and see the possibility to generalize the findings later on the rest of the population. As we aim at generalizing the findings of this work on the whole population of second year students, we believe that random sampling would be the most adequate sampling technique to use in our work. We have selected randomly two groups to make 28% of boys and the percentage of girls in the sample of our study is 72%. To assume that using effective note taking strategies would bring change and improve students' learning performance in general culture course, we need to work with two similar groups. One group will take notes with the help of a template of Cornell method, the other one will take random notes. So that any observed change with the first group can be attributed to the newly used technique that is note taking and not to other factors.

III.4.DATA GATHERING TOOLS

To answer the research questions, we will employ the following research tools:

III.4.1.The Questionnaire

The questionnaire has been designed for the purpose of gaining further insights about the impact of effective note-taking skills during General Culture lectures on EFL student's learning performance. The questionnaire might be the only instrument that can serve as means of collecting a considerable amount of data with a minimum of time and efforts. It is not only easy to administer, but it also provides a general view of the investigated problem which is difficult to obtain by other means of investigation. Questionnaires allow the gathering of

reliable and valid data, relatively, in a short time. We have administered questionnaires to six teachers from our department of English to know about their views and attitudes towards effective note taking strategies. The questionnaire has been concerned with the identification of teachers' lectures explanation. The teachers have been asked if their students take notes during lectures or not, their attitudes towards the benefits of note taking, their viewpoints about the role of taking notes in developing skills and if taking notes increases students level. In addition, we have asked them to know if taking notes develop the cognitive process in terms of memorization, the criteria that should be taken into account when taking notes. Finally, we have asked them the impact of note taking in the learning process and if teachers should encourage and teach students effective strategies of note taking. Both open questions and closed ones have been included in our questionnaire so as to get as valid information as possible.

III.4.2.The experiment

Taking notes is of uttermost importance in academic use and success. Different techniques for note-taking utilize different strategies. The experimental study examined ways to enhance learner performance via different note-taking techniques. By comparing performances of traditional taking notes with alternative technique, we aimed to examine the efficiency and importance of different strategies of taking notes on fifty second year LMD learners. Performance scores from a traditional note-taking group were compared with another group by using note-taking technique.

Both groups were tested; tasks included measures on comprehension, memory, complexity of mental representations and meta-cognitive skills. Data analysis revealed that the strategic note-takers were significantly better than the other group both in terms of the quantity and the quality of the learned material. This study demonstrates the importance of

using note-taking techniques. It identifies effective note-taking and knowledge representation. Using such techniques enables deeper understanding and more integrated knowledge management.

The experiment is done to observe the positive impact of effective note taking in students' scores in the general culture module. We took fifty students from second year and we divided them into two equivalent groups. The first one was the control group and the second was the experimental group.

We applied the experiment, which was to give the first group a template of taking effective notes that was taken from the Cornell method while the second group took notes randomly during fifteen days, and then we assessed them through a quiz to see whether or not taking effective notes during general culture course made a difference between the two groups. As a result, progress was shown in the first group rather than the second one.

III.4.3.Observation

Classroom observation has been taken as a major instrument to investigate what actually happened in the lecture. Therefore, among all student of second year, fifty have been randomly chosen and observed while attending the lecture of general culture and have been divided into two groups the experimental (B) and the control group (A). Each student has been observed using a structured observation based on their scores in the exams of the above module. The observation has included the collection of their notes, which have been all concerned with the way that students have been used in this skill. The notes have been presented in the students' samples. During the observation the two groups were taking usual and non effective notes.

A template was given only to group B to write on their notes. At the end of the observation, both groups were asked to answer a quiz in order to see the differences between the two in terms of taking notes and improvement of their marks

III.4.4.Quiz

After the first observation that took place on March, we have noticed the disorganized and non connected ideas during the process of taking notes. We gave only the experimental group an effective template which is Cornell to take notes on; by April we did a quiz (on a lesson they already studied) to both groups in order to see the differences between the two in terms of proving the effectiveness of strategic notes taking and how they can change a level of students in short time. The quiz was for half an hour and the correction was made by the help of the teacher of the module. Results are presented in the tables below.

The questions of the quiz were:

From your lecture of colonial era, answer the following questions:

1-Why Philadelphia was the largest city in America?

2- What is meant by "no taxation without representation"?

3- Why more British soldiers were sent to the port of Boston?

4- What happened on April 19/1775?

5- Who are Thomas Jefferson and John Burgoyne?

III.5.PROCEDURES

A questionnaire was administered to teachers at the department of English and an experiment done to students of second year LMD, to prove the positive impact of effective notes on students' scores in general culture. The questionnaire was concerned with the

identification of teachers' lectures explanation. The teachers were asked if their students take notes during lectures or not, their attitudes towards the benefits of note taking, their viewpoints about the role of taking notes in developing skills and if taking notes increases students level. In. addition, we asked them to know if taking notes develop the cognitive process in terms of memorization, the criteria that should be taken into account when taking notes. Finally, we asked them the impact of note taking in the learning process and if teachers should encourage and teach students effective strategies of note taking. Both open questions and closed ones were included in our questionnaire so as to get as valid information as possible.

Furthermore, the experiment is done to observe the positive impact of effective note taking in students' scores in the general culture module. We took fifty students from second year and we divided them into two equivalent groups. The first one was the control group and the second was the experimental group.

Moreover, classroom observation has been taken as a major instrument to investigate what actually happened in the lecture. Each student has been observed using a structured observation based on their scores in the exams.

We applied the experiment, which was to give the group B a template of taking effective notes that was taken from the Cornell method while the group A took notes randomly during fifteen days, and then we assessed them through a quiz to see whether or not taking effective notes during general culture course made a difference between the two groups.

CHAPTER IV:

DATA ANALYSIS AND DISCUSSION

INTRODUCTION

The current study aims at investigating the effects of Note taking on improving students' English proficiency. The questionnaire for teachers is a nineteen item questionnaire divided into two sections: the teachers' background information and their attitudes towards Note taking during lectures. Its basic aim was to get teachers' attitudes, views and opinions about note taking in particular and how they would react if note taking is to be used as a learning strategy in lectures.

The questionnaire was given to sample of six lecturers of different modules. After some changes and readjustments, it was self-administered to the population sample in order to save time and energy.

IV.1. THE QUESTIONNAIRE FOR TEACHERS

Section I: Teachers' background information

Item 1:

Your sex is:

	N	%
a-male	**03**	50%
b-female	**03**	50%
Total	**6**	**100%**

(Table 05: Teachers' gender)

Histogram 01: Teachers' gender
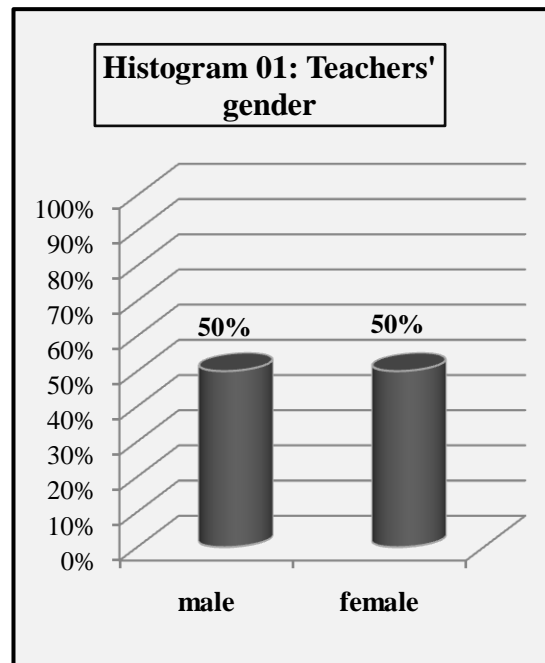
We asked this first question to know about the teachers' sex. From (Table 1) and (histogram 1), the number of male and female is similar. The similarity of gender would be a considerable fact to the study, as it would show whether sex has an impact on teachers' preference of taking notes.

Item 2:

2- For how long have you been teaching at the university?

Teaching is a profession where "experience" has a great importance. This question aims at checking the respondents' experience (short, average, long, very long …). This question is also very necessary in the sense that it differentiates the experienced teachers' attitudes from the less experienced ones.

Years	N	%
1 – 10	5	83.33%
10 – 20	1	16.66%
20 – 30	0	00%
Total	6	100%

(Table 06: Teachers' experience)

Histogram 02: Teachers' experience
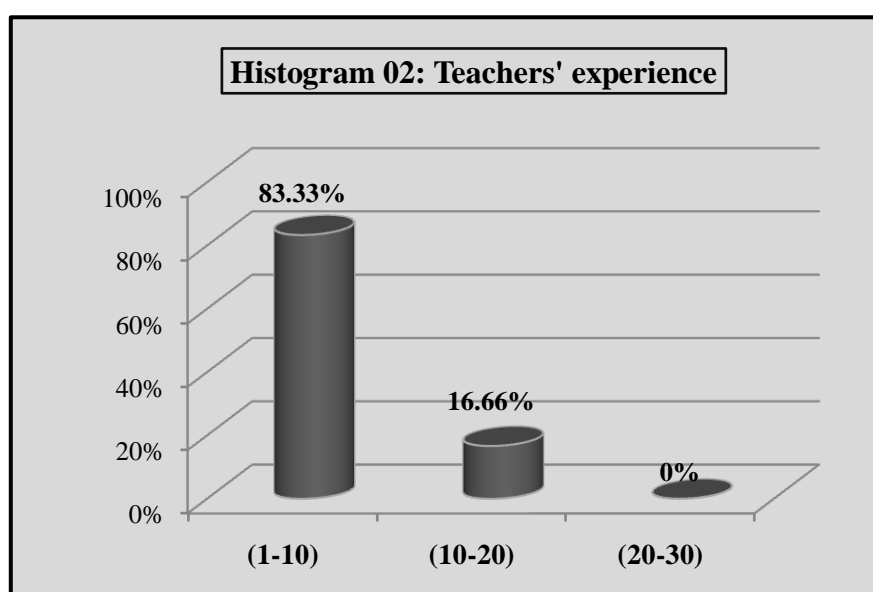
The table and the histogram above show that 5 teachers (83.33%) of the population of study have an experience of less than 10 years. The longest experience is then, 16 years. No teacher of the population of study has an experience of more than 20 years up to 30 years. This data implies that the majority of teachers of the population of study are experienced teachers (having an experience superior than 5 years).

Item 3:

3-Which modules are you teaching?

The data shows that those six teachers teach different modules. Two teachers teach linguistics, another teacher teaches written expression. Other two teachers teach General culture and the remaining one teaches literature. This data implies that the teachers of the population of study are teaching different modules so different opinions depending on these different modules.

Section II: Students' Attitudes towards Taking notes during lectures

Item 4:

4- How do you explain your course?

a- Handouts ☐

b- Dictation ☐

c- Lecturing ☐

d- Writing on the blackboard ☐

	N	%
a- Handouts + Writing on blackboard	3	50%
b-Dictation + Lecturing	2	33.33%
c-All of them	1	16.66%
Total	6	100%

(Table 07: Teachers teaching method)

Histogram 03: Teachers' teaching methods
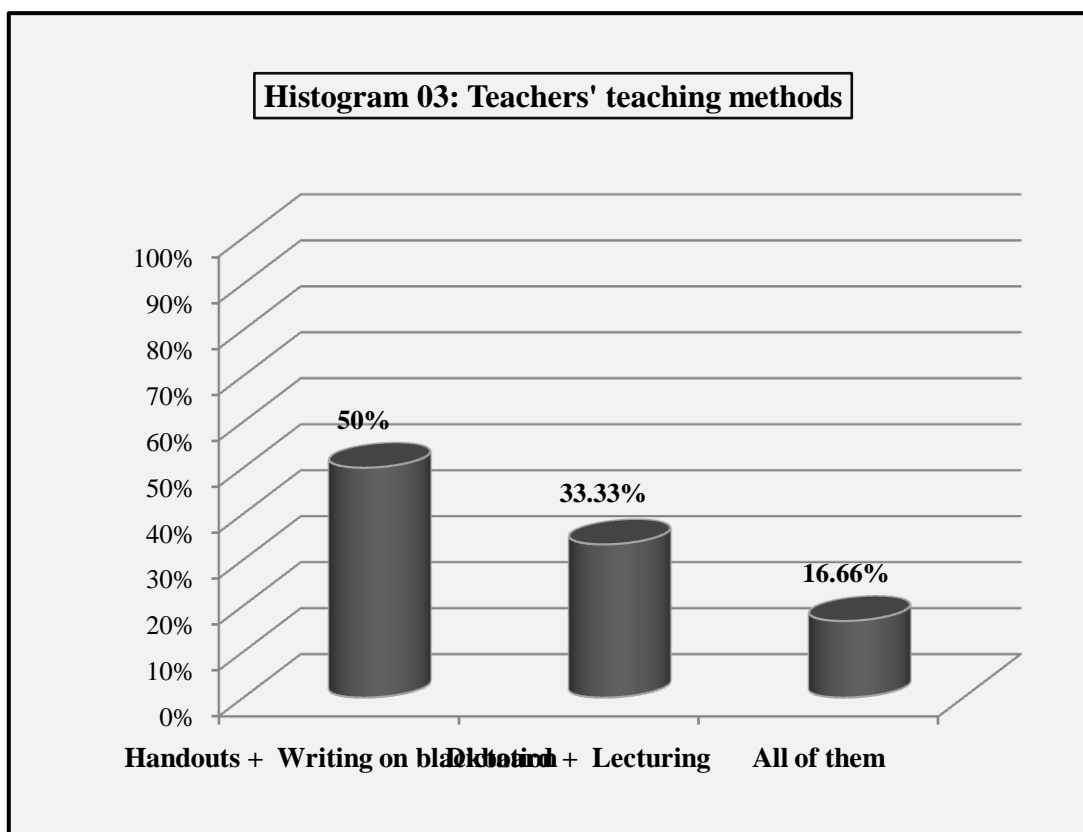
This question aims to find out the different methods that the teachers use while lecturing. The majority of responses, 4 of them representing (33.33%) use handouts as main teaching method. The same thing for the method of writing on blackboard, 4 responses representing (33.33%). Whereas, 1 response representing (8.33%) prefer lecturing and other 1 response asserts that dictation is the best method. However, just 2 responses, which represent (16.66%), prefer writing on blackboard. This data implies that every teacher has his way of teaching (method).

Item 5:

5- Justify:

The responses of the teachers of the population of study were different. The teachers, who use all the methods, justify their answers that all these methods contribute in the achievement of the objectives assigned to the lecture and it depends on the topic. While the

teachers who prefer handouts, dictation, writing on blackboards justify their answers that it is

due to the time they use those methods to facilitate the course and to gain time.

Item 6:

6- Do students take notes during your lecture?

a- Yes they do   ☐

b- No they do not ☐

	N	%
a-Yes	**6**	100%
b-No	**00**	00%
Total	**6**	**100%**

(**Table 08:** students taking notes)

Histogram 04: students' taking notes
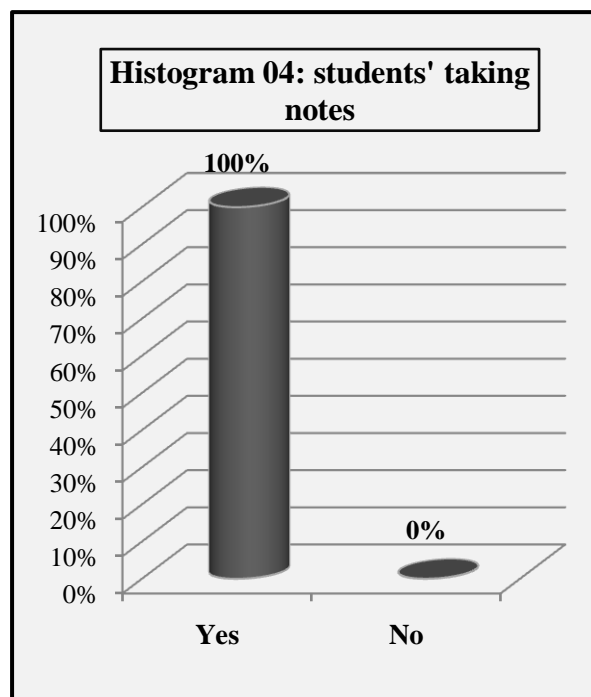
The table and the histogram above show that all the students who have been taught by those 6 teachers (100%) are taking notes in lectures. This data indicates that most students take notes.

7. How often?

a- Always ☐

b- Often ☐

c- Sometimes ☐

d- Rarely ☐

	N	%
a-Always	2	33.33%
b-Often	3	50%
c-Sometimes	1	16.66%
d-Rarely	0	00.00%
Total	6	100%

(Table 9: how often students use notes)

Histogram 05: how often students take notes
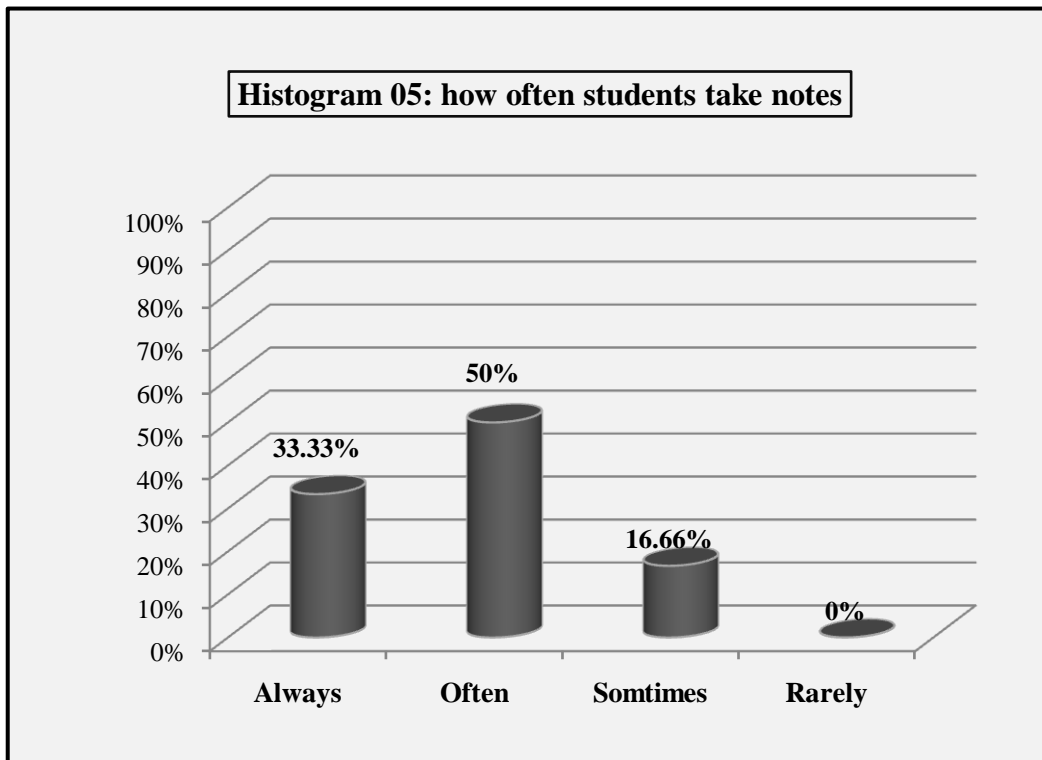
The table and the histogram above indicate that most of teachers of the population of the study 3 representing (66.66%) assert that their students often take notes during lectures. While 2 teachers representing (33.33%) claim that their students always take notes during lectures and one teacher representing (16,66%) says that his student sometimes take notes. However, none of them choose "rarely". These results imply that note-taking is really important to the students. This is may be because note-taking provides them with the opportunity to remember, revise, and helps them to understand.

Item 8:

8- Do you think that taking notes is beneficial while preparing for exams in terms of information?

a- yes ☐

b- No ☐

	N	%
a-Yes	**6**	100%
b-No	**0**	00%
Total	**6**	**100%**

(Table 10: Taking notes benefits for preparing to exams)

Histogram 06: taking notes benefits for preparing to exams
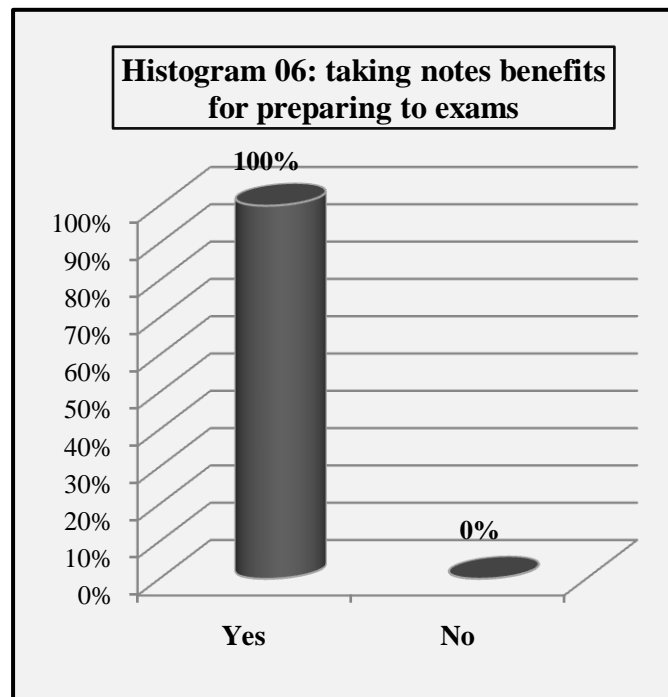
The table above shows that all teachers of the population of study (100%) affirm that their students benefit from the use of note-taking while preparing for exams. This data indicates that students who take notes benefit from those notes during their revision for exams.

Item 9:

9- If yes how?

Teachers' responses were different because of disparity in their experiences. Some of them describe the benefits of note taking during the revision for exams by claiming that note taking is a way to a better memorization. Instead of reading long passages, they make their own summary. Others declare that this skill consolidates students' understanding of the lecture and turn them into active participants in the lectures and sometimes we ask them questions about the notes on the board and not in the handouts. The rest of teachers suggest that their students benefit from the information which is not mentioned in the handouts and they may refer to them during exam revision.

Item 10:

10- Did taking note develop skills?

	N	%
a-Yes	6	100%
b-No	0	00%
Total	6	100%

(Table 11: develop skills through the use of note-taking)

Histogram 07: Students' develop skills through the use of note-taking
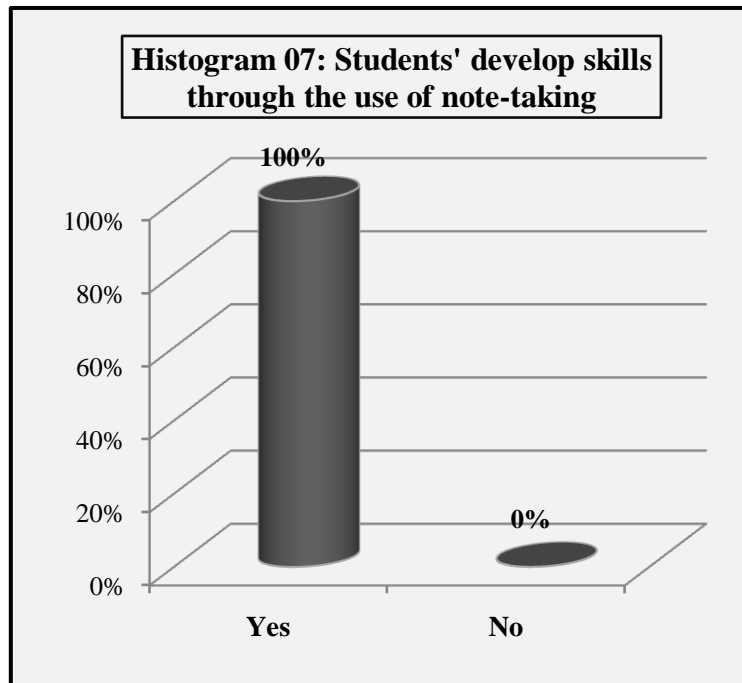
The table above shows that all teachers of the questionnaire agree that taking notes develops students' skills. This data indicates that most students who take notes have developed their skills.

Item 11:

11- If yes how?

All of teachers of the population of study agree that taking notes develop two skills that are listening and writing ones. They explain that listening skill can be developed through selection of the most important ideas from lectures while the writing skill is developed because it is believable that students produce each time (write paragraphs or essays).

Item 12:

12-Do you think that taking note can increase the level of students?

a- Yes ☐

b- No ☐

	N	%
a-Yes	**6**	100%
b-No	**0**	00%
Total	**6**	**100%**

(Table 12: Increasing students' level through the use of note-taking)
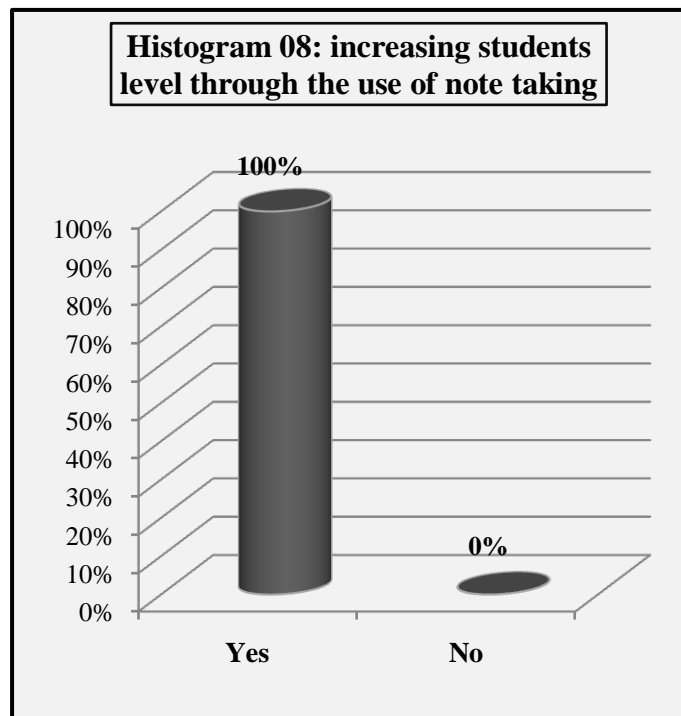
The above table and histogram show that all teachers of the study population (100%) confirm that the level of all students increases when they take notes.

Item 13:

13-If yes how?

Teachers' views differ from one to another. They believe that taking notes sharpen the students' intelligence "choice of the most useful notes" and train them to work under pressure (time factor and concentration).In addition; if students come across difficult words they will try to check them to write expressions, and consequently it improves their level. Moreover, this strategy enhances their listening and writing skills, and then they improve their performance in the exams in terms of form and content. Finally, it makes students more autonomous in the selection of information to record. This develops their cognitive abilities.

Item14

14- Did taking notes develop the cognitive process in terms of memorization?

a-Yes ☐

b-No ☐

	N	%
a-Yes	**6**	100%
b-No	**0**	00%
Total	**6**	**100%**

(Table 13: developing cognitive process through the use of note-taking)

Histogram 09: Developing cognitive process through the use of note taking
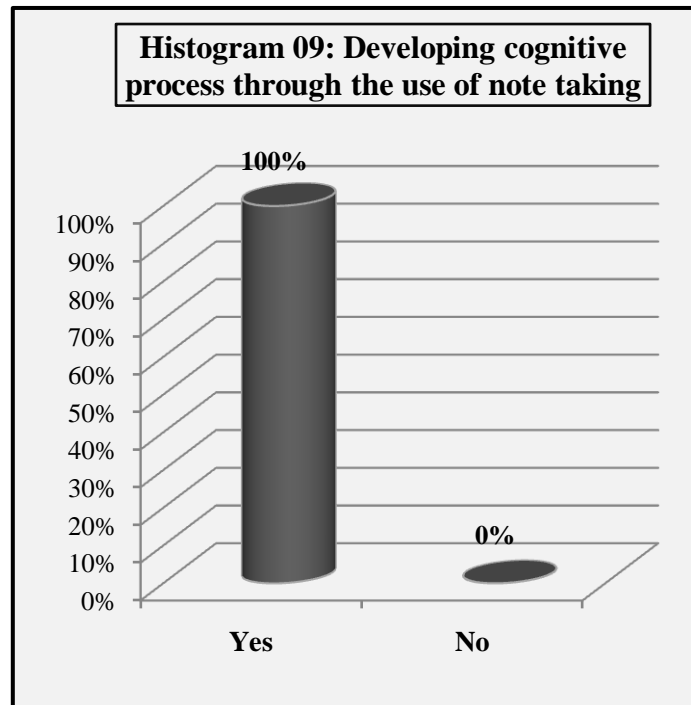
The table and the histogram above show that six teachers (100%) agree that note taking develops cognitive process in terms of memorization. This data indicates that teachers, from their own experience, notice that taking notes develop the cognitive process in terms of memorization. .

Item15

15- If yes how?

Teachers' views were different concerning the development of the cognitive process "memorization" when taking notes. Some of them claim that it has been proved scientifically that writing notes helps to memorize better. While others say that taking notes makes the process of memorization much more conscious and less automatic, and the remaining of teachers believe that taking notes develops memorization through the choice of useful notes and their re-arrangement. This data confirms the fact of effectiveness of note taking in the development of cognitive process in terms of memorization.

Item16

16-What is the most important criterion you think it should be taken into consideration when taking notes?

a- Importance of the information you note   ☐

b- Organization of the lecture (outline)   ☐

c- Connections between ideas presented during lecture ☐

d- Giving new and different examples   ☐

e- Summarizing and paraphrasing spoken language   ☐

g- All of them   ☐

Criteria of taking notes	N	%
a- Importance of the information you note	01	16.66%
b- Organization of the lecture (outline)	01	16.66%
c- Connections between ideas	01	16.66%
d- Giving new and different examples	00	00.00%
e- Summarizing and paraphrasing spoken language	01	16.66%
g- All of them	02	33.33%
Total	06	100%

(**Table 14: Teachers' opinions of note taking criterion**)

Histogram 10: Teachers opinions of note taking criterion
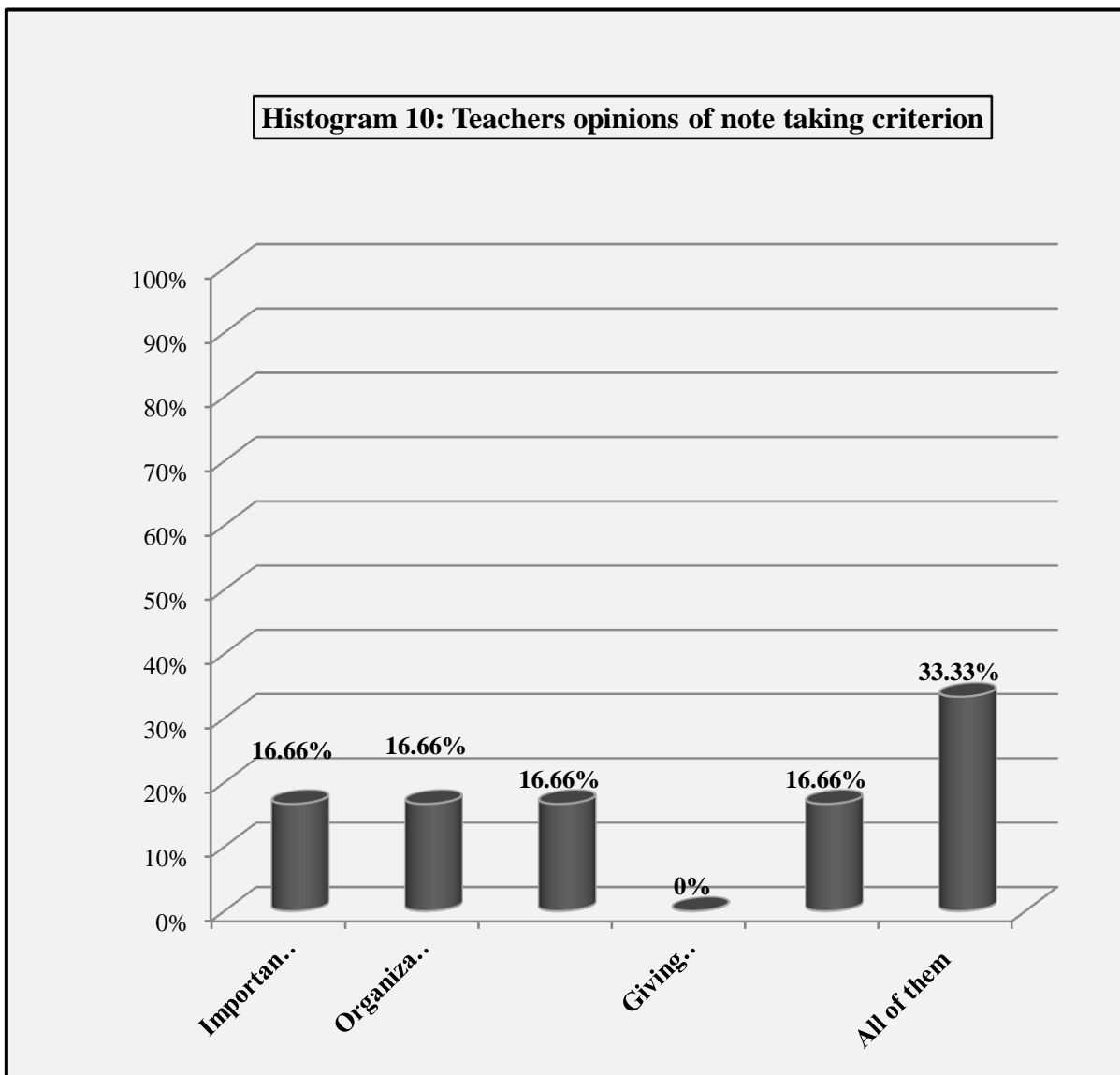
The table and the histogram above shows teachers' opinions about the criterion that should be taken into account when taking notes. The majority of teachers of the population of study (33.33%) assert that all of them are important. The remaining four teachers of the population one of them (16.66%) choose importance of information to note and the second one (16.66%) choose organization of the lecture (outline), the third one (16.66%) choose connections between ideas, the fourth one choose summarizing and paraphrasing spoken

language and no one (00.00%) choose giving new and different examples. This data implies that almost all the mentioned criteria are important when taking notes, but their importance differ from teacher to another.

Item 17

17-How do you think that taking notes produces positive impact in the learning process?

The teachers agree with the fact that taking notes produces positive impact in the learning of English. Their answers were different; some teachers said that taking notes helps students become autonomous learners relying on what to select as information during lectures. Others said that it makes the learning process reciprocal rather than one way and Students shift from passive learners to active ones in order to bore independent. This data confirms the importance of note-taking to the students in all modules.

Item 18:

18-How do you think that teachers should encourage students to take notes?

The teachers agreed that teachers should encourage students to take notes. Their answers were different; some teachers said that the encouragement can be done by showing them strategies that can be used to take useful notes. Others claimed that they can help students outline their lectures and organize their ideas or say it verbally, minimize the amount of data in the handouts, use dictation, summarizing and paraphrasing, giving lessons' outline and avoid ready-made handouts and long dictations of notes in order to make the students feel responsible and active in the learning process.

Item 19:

19-In your opinion, does effective note taking should be taught?

This question has been asked to show that even if taking notes seems to be a simple way to recall lectures, but it is a valuable skill that should be taught.

All teachers of the population of study agree that note taking should be taught. They assert that learners should develop meta-cognitive awareness about what are they doing and how they are doing it. Furthermore, note taking is an integral factor in the learning process that requires certain skills and methods that should be known by the students.

IV.2. THE EXPERIMENT

As mentioned earlier the subjects of the test were 50 English students of second year LMD system at Mohamed Kheider University in Biskra, Algeria. The two groups (25students in one group and 25 students in the other). All the students were native speakers of Arabic, and their ages averaged between 18 and 22 years old. Their background in English included a minimum of six years of formal instruction at school and one year at the university level (studying the reading skills, grammar, and comprehension of literary texts such as short stories, poems, and short plays). The overall competence of the two groups in English was nearly similar.

The students who took the general culture course during the fifteen days period will be referring to the control group as A (25 students), whereas the other group who took the same course in the same period will be the experimental group called B(25 students). Both groups are already taking notes during lectures. In the case of Group A, no strategic note-taking was carried out; however, with Group B. strategic note-taking was illustrated in a given

template of how to take notes during courses. The students learned to take notes effectively. While students of group A are not aware of such procedure.

The study bases its findings on an observation of the students before launching the experiment with the analysis of their samples of notes that they took in previous lectures and a quiz at the end of the experiment to both Group A and Group B with the analysis of the new samples of notes of Group B.

IV.3.OBSERVATION

As mentioned before (see method/observation), our investigation was spread over a period of fifteen days. This required an observation on students' performance in General Culture. We followed the progress of both group A and B recording their scores. As a result, we noticed that both groups took notes randomly and their scores were almost similar. These are found in table 16 "performance of students group A" and table 17 "performance of students group B".

IV.4.QUIZ

As mentioned before (see method/quiz), we did a quiz for students to test their progress after we gave the template to the experimental group. Consequently, group B obtained better scores in that course. This shows the superior progress of group B (the group that learnt how to take notes effectively) over group A. All these are mentioned in table 18 "the performance of students in group A" and table 19 "the performance of students in group B".

Table 15. *Performances of Students in Group A*

Student #	Pupils performance
01. A.Aziza	14.5/20
02. A.Habib	12.5/20
03. A.Meriem	13/20
04. A.Nadjet	11.5/20
05. B.Abdsalam	14/20
06. B.Aouatif	14/20
07. B.Djillani	10/20
08. B.Karima	12.5/20
09. B.Kenza	13/20
10. B.Nadia	13/20
11. B.Nasma	12.5/20
12. B.Nassiba	12/20
13. B.Salem	13/20
14. C.Adel	13.5/20
15. D.Sara	14.5/20
16. F.Abdullah	15/20
17. K.Zineb	12/20
18. L.Soumia	10/20
19. M.Ilhem	12.5/20
20. M.Lamia	15/20
21. M.Raouia	12/20
22. N.Messouda	14.5/20
23. R.Oussama	14.5/20
24. S.Anfel Salsabil	14.5/20
25. S.Chahrazad	11.5/20
Total	**324.5**
Average	**12.98**
%	**51.92%**

Table 16. *Performances of Students in Group B*

Student #	Pupils performance
01. A.Souheila	12/20
02. B.Hamza	10.5/20
03. B.Laila	14.5/20
04. B.Nafissa	10.5/20
05. B.Radhia	14/20
06. B.Roukia	11/20
07. B.Youcef	11.5/20
08. C.Mofida	15/20
09. D.Dalel	13/20
10. D.Mohamed aimen	14/20
11. F.Besma	11.5/20
12. H.Boubaker	15/20
13. H.Dekra	14/20
14. K.Nourelhouda	12.5/20
15. L.Moustapha	10.5/20
16. L.Samiha	12.5/20
17. M.Ouided	11/20
18. M.Saber	13/20
19. M.Sabrina	13.5/20
20. N.Ferial	15.5/20
21. O.Selma	13.5/20
22. S.Amel	13/20
23. S.Anter	13/20
24. S.Hadjer	13.5/20
25. Z.Saliha	12.5/20
Total	**320.5**
Average	**12.82**
%	**51.28%**

Histogram 11: Group A and B Pre-scores
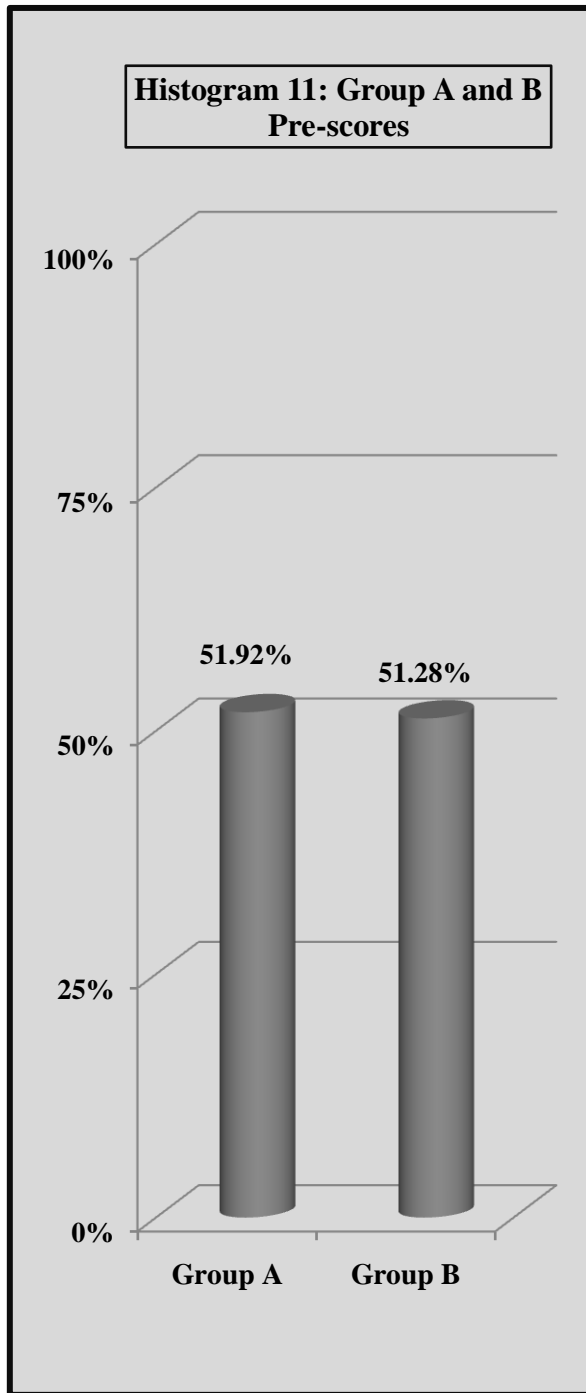
This histogram shows the pre-scores of both group A and B.

Table 17. *Performances of Students in Group A*

Student #	Pupils performance
01. A.Aziza	14.5/20
02. A.Habib	12/20
03. A.Meriem	12/20
04. A.Nadjet	12/20
05. B.Abdsalam	15/20
06. B.Aouatif	14/20
07. B.Djillani	09/20
08. B.Karima	12/20
09. B.Kenza	14/20
10. B.Nadia	14/20
11. B.Nasma	12/20
12. B.Nassiba	11/20
13. B.Salem	13/20
14. C.Adel	14/20
15. D.Sara	13/20
16. F.Abdullah	15/20
17. K.Zineb	12.5/20
18. L.Soumia	10.5/20
19. M.Ilhem	13/20
20. M.Lamia	16/20
21. M.Raouia	11/20
22. N.Messouda	14.5/20
23. R.Oussama	15/20
24. S.Anfel Salsabil	14/20
25. S.Chahrazad	13/20
Total	**326**
Average	**13.04**
%	**52.16%**

Second year
General culture
Quiz scores

Table 18. *Performances of Students in Group B*

Student #	Pupils performance
01. A.Souheila	15/20
02. B.Hamza	14/20
03. B.Laila	17.5/20
04. B.Nafissa	14.5/20
05. B.Radhia	15.5/20
06. B.Roukia	14.5/20
07. B.Youcef	15.5/20
08. C.Mofida	17/20
09. D.Dalel	16/20
10. D.Mohamed aimen	17/20
11. F.Besma	13.5/20
12. H.Boubaker	18.5/20
13. H.Dekra	16/20
14. K.Nourelhouda	14.5/20
15. L.Moustapha	14.5/20
16. L.Samiha	15.5/20
17. M.Ouided	14/20
18. M.Saber	16.5/20
19. M.Sabrina	16/20
20. N.Ferial	17/20
21. O.Selma	16.5/20
22. S.Amel	16.5/20
23. S.Anter	17/20
24. S.Hadjer	16/20
25. Z.Saliha	15/20
Total	**393.5**
Average	**15.74**
%	**62.96%**

Histogram 12: Group A and B Quiz scores

- Group A: 52.16%
- Group B: 62.96%
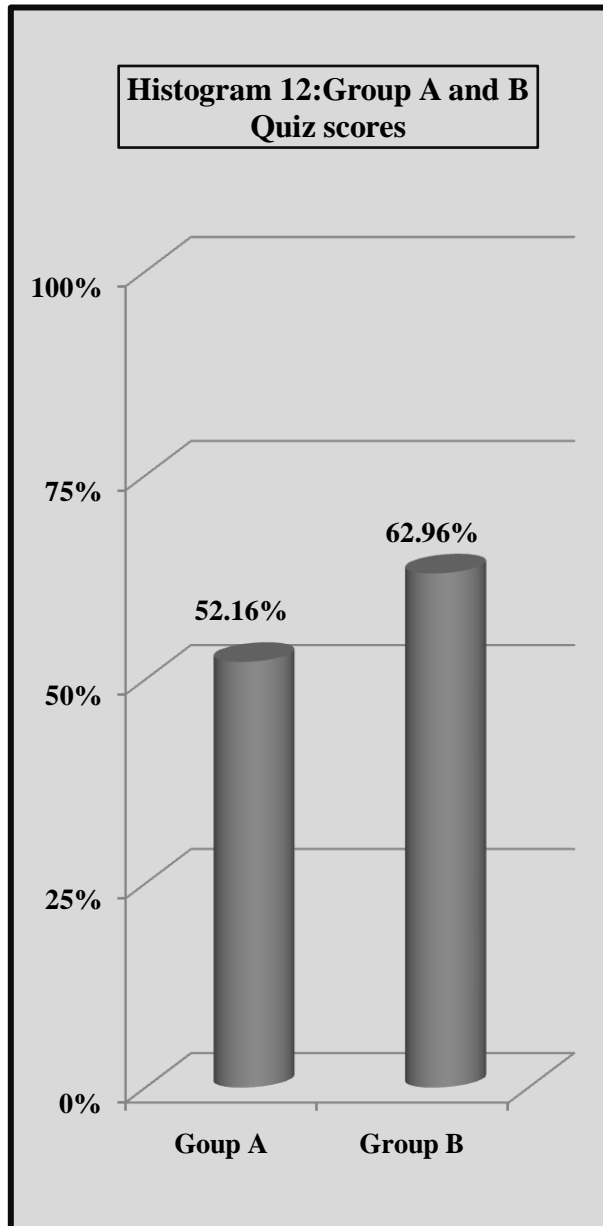
This histogram shows the quiz scores of both group A and B.

In this section, the achievements of the students in both groups in the field of General Culture will be presented and analyzed. Table 1 illustrates the performances of individual students in Group A in the pre-scores while Table 2 illustrates those of the subjects in Group B. Table 3 illustrates the performances of students of Group A in the quiz , however table 4 illustrates those of the subjects in Group B. The first column shows the student's number and name; the second one illustrates the pre-scores and quiz scores of each student. At the end of each table, there is the total number of the scores, followed by the average and the percentage (average score).

IV.5. Findings

Evaluating students' general culture performance in the pre-scores indicated a relative similarity of the two groups, in spite of the tiny difference of 0.1 in favor of the group A. Both groups, by the end of the experiment, made progress. Yet, it was the Group B which showed better results. This fact is indicative of at least for one thing. It implicitly reveals that Group B felt more confident about the use of information, which shows that the subjects in this Group mastered this skill better than the subjects in Group A.

All in all, then, Group B did substantially better than Group A. This, it is believed, was due in effective note-taking, which included explaining to the students of Group B how to take notes during the course effectively. One may claim, however, that the fact that Group B performed better than Group A was due to circumstantial or physical reasons (e.g. Group B being a better class with a superior level) and not to taking notes.

This claim cannot stand for several reasons. First, both Groups had similar previous training not only in general culture but also in English. Second, the subjects scored similar results in the pre-scores. Finally such a big gap in scores (52.16% vs. 62.96%) cannot be

blamed on circumstantial or physical reasons. A gap in the range of 5% may be due to accidental reasons, but not one in the range of more than 11% points.

General Findings :

	Pre-scores	Quiz scores	Progress	%
Group A	12.98	13.04	0.06	0.3
Group B	12.82	15.74	2.95	14.75

(Table 19: Progress matching of the group A and group B)

Histogram 13: Progress matching of group A and group B
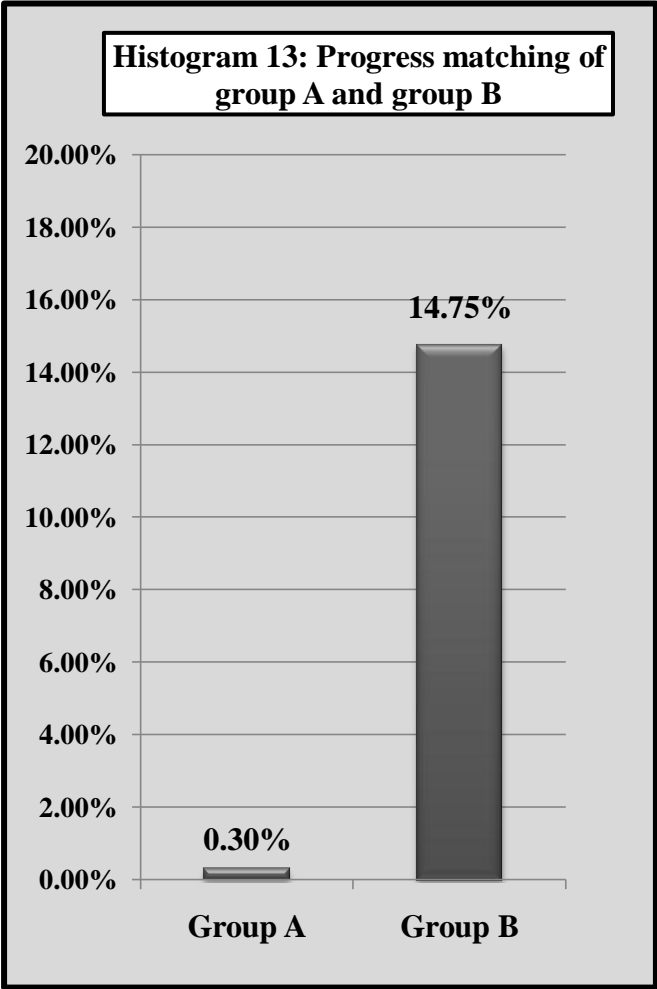
The above progress matching table and histogram show clearly group B made advanced progress over group A.

CONCLUSION

The results, in general, supported a clear link between note-taking strategies and the student's performance. An important finding of this study was that students who took notes according to their own method showed lower level of language achievement than those who took notes on the basis of the Cornell method. This case study has experimentally demonstrated that a group of students made aware of the note-taking strategies performed markedly better than another group that was not so informed. The area selected to carry out the test was that of English general culture.

CHAPTER V:

CONCLUSION AND RECOMMENDATIONS

GENERAL CONCLUSION

The research described in this dissertation is centrally motivated by the desire to understand the impact of effective note taking on the students' learning performance. The results reported here reinforce the importance of taking effective notes on students' achievement in exams.

Note taking as it has been mentioned before is an important academic task that helps students remember what they have learnt and helps them review materials for re-use in revision and assignments. In addition, the process of note taking involves a complex set of skills and interactions between instructors and their students. In our dissertation we included something that is crucial to our topic and has been underestimated before that is teaching note taking. This would be helpful for students to progress not more quickly but in a way that their skills in using this indispensable tool are improved.

Summarily, effective note taking increases students' marks in exams. Considering that note taking smoothes the progress of comprehension may pave the way for teachers to integrate this strategy into their courses and to encourage their students to take notes in a strategic way not in a random manner.

RECOMMENDATIONS:

Given the findings and the limitations of the present study, several recommendations can be made for future research to further investigate the effectiveness of using taking notes strategy during lectures, especially in university level classes in EFL contexts. Those recommendations are summarized into the following points :

- Lectures should take clear and regular structure for better comprehension.

- Teachers should provide their students with clear handouts for easy and effective note taking.

- Background knowledge (when lecturers start with reviews of relevant content covered in previous lectures) sounds a good basis for more successful lecture comprehension.

- Instructors should use visual aids, maps, drawings, slides, photographs to help keep the students' attention and hence favor better recall.

- Teachers should enhance students to summarize lectures because they help students' lecture comprehension.

- Good note taking should be taught, particularly in the early stages of students' studying because it greatly contributes to excellent test results.

- Teachers should motivate students to take effective note by providing them with the best and easiest methods of note taking.

- Lecturers should evaluate students' note taking after each lecture in order to avoid errors and this will make students' note more effective.

- In order to respect students' learning style, Instructors should show different strategies and methods of taking notes.

- It is very important to train EFL students to develop their listening skills before entering university in order to facilitate note taking skill.

- Dictation should be included in EFL programmes from early stages to enhance students'concentration and to make them used to take good notes.

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APPENDICES

Appendix 01 : The questionnaire for teachers.

This questionnaire investigates the difficulties you encounter during lectures as well as the effect of Note Taking in while attending courses. The aim of this study is to prove whether taking notes could bring any improvement to the achievement of students or not. We would appreciate it if you would be prepared to assist us by completing the following questions. Please note that your response will be anonymous and all information given will be treated confidentially and exclusively for the purposes of the research. In order for the study to be relevant, we will appreciate it if you give exact information. Thank you for your cooperation.

*Please, tick in the right box or make full answers whenever necessary.

SECTION I: teachers' Background Information

1- Sex: Male ☐   Female ☐

2- How long have you been teaching at the university?

……………………………………………………………………………………………….

3-Which modules are you teaching?

……………………………………………………………………………………………….

SECTION II: teachers' Attitudes towards taking notes during lectures:

4- How do you explain your course?

a- Handouts ☐

b- Dictation ☐

c- Lecturing ☐

d- Writing on the blackboard ☐

e-All of them ☐

5- Justify:

…………………………………………………………………………………………………

…………………………………………………………………………………………………

6- Do students take notes during your lecture?

a- Yes they do ☐

b- No they do not ☐

7- How often?

a- Always ☐

b- Often ☐

c- Sometimes ☐

d- Rarely ☐

8-Do you think that taking notes is beneficial while preparing for exams in terms of information?

a- yes ☐

b- No ☐

9-If yes how?…………………………………………………………………………………

…………………………………………………………………………………………………

10- Does taking notes develop skills?

a- Yes   ☐

b- No   ☐

11- If yes how?…………………………………………………………………………...

……………………………………………………………………………………………

12-Do you think that taking notes can increase the level of students?

a- Yes ☐

b- No ☐

13-If yes how?..

……………………………………………………………………………………………

14- Did taking notes develop the cognitive process in terms of memorization?

a-Yes ☐

b-No ☐

15- If yes how?..

……………………………………………………………………………………………

16-What is the most important criterion you think it should be taken into consideration when taking notes?

a- Importance of the information you note   ☐

b- Organization of the lecture (outline)   ☐

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c- Connections between ideas presented during lecture ☐

d- Giving new and different examples ☐

e- Summarizing and paraphrasing spoken language ☐

g- All of them ☐

17-How do you think that taking notes produces positive impact in the learning process?

…………………………………………………………………………………………..

…………………………………………………………………………………………..

18-How do you think that teachers should encourage students to take notes?

………………………………………………………………………………………….

………………………………………………………………………………………….

19-In your opinion, should effective note taking be taught?

…………………………………………………………………………………………..

…………………………………………………………………………………………..

Thank you very much for your time and participation

Appendix 02: template of Cornell method used by a student of group B

Topic	Name:…………………………………..
………………………………………. ………………………………………	Hour:…………………………………… Date……………………………………

Question/ Main ideas and thoughts	Notes
………………………………………….	………………………………………….
………………………………………….	………………………………………….
………………………………………….	………………………………………….
………………………………………….	………………………………………….
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………………………………………….	………………………………………….
………………………………………….	………………………………………….
………………………………………….	………………………………………….
………………………………………….	………………………………………….

Summary

Explains the meaning of the passage or article using students own words

………………………………………………………………………………………..

………………………………………………………………………………………...

………………………………………………………………………………………...

Appendix 03: Written sample of a student from Group A

Appendix 04: A handout of a student from Group A

RESUME

Prise de notes est un comportement courant chez les étudiants à la fois lors de la lecture et tout en fréquentant les conférences. Une longue histoire de la recherche datant du début du 20e siècle a montré que le processus de prise de notes et de notes ayant pour examiner promouvoir l'apprentissage.

L'étude examine l'effet de la prise de notes sur les élèves qui apprennent la performance de 50 étudiants de deuxième année LMD dans le département d'anglais de Mohamed Kheider Université de Biskra. Les participants seront divisés en deux groupes, à savoir le groupe expérimental et de contrôle. Le groupe expérimental sera autorisé à prendre des notes à l'aide du modèle de la méthode de Cornell lors de la conférence de la culture générale alors que le groupe de contrôle prenne leurs notes d'une façon habituelle. Les scores qui pourraient être obtenus par ces deux groupes seront statistiquement analyser et les résultats montreront que le groupe expérimental fera mieux que le groupe contrôle.