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The Effect of Note Taking on Master One Students' Scores

in Sociolinguistics and Psycholinguistics.

Case Study : M1 students of sciences of languages at the Department of English Language in Mohamed

Kheider University of Biskra.

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Dedication

This dissertation is dedicated to **my loving parents**, for their endless love, support, and encouragement to be where I am today.

To the very special gift that Allah provided me with, **my sister Amani**, and **my brother** Abderahman.

To my best friend in the entire world, **CHAR Asma**, for having faith in me when I began to lose it in myself and not letting me give up.

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Abstract

Note taking is a study skill used by several students to keep large amounts of information presented in lectures. The present study aims to investigate the effect of this skill on M1 students' scores in both Sociolinguistics and Psycholinguistics modules at Biskra University. Besides, it attempts to highlight the students' differences in taking their notes, and teachers' contribution to improve their students' notes as well. It tries to test one hypothesis that is: Note taking may be useful for M1 students' academic achievement in those two modules. In line with this hypothesis, it attempts to answer one main question that is: To what extent is note taking useful for M1 students in Biskra University in Sociolinguistics and Psycholinguistics modules? and two other subquestions. To achieve those aims, test the hypothesis, and answer those questions, a triangulation research methodology is used: t-test in the intended modules, a questionnaire for students, and an interview for teachers. Concerning the t-test, an experimental group (N=10) and a control group (N=9) are selected purposefully depending on their use of this skill or not. Furthermore, a random sampling (N=37) for the questionnaire, and a convenience sampling (N=2) for the interview. The quantitative results obtained reveal that note taking positively affects the students' understanding and memory, consequently their academic achievement. Moreover, qualitative data gathered from the interview indicate that teachers play a vital role to help students to improve their notes. On the whole, both quantitative and qualitative results obtained in this survey prove the importance of students note taking in lectures to better their academic achievement.

List of Abbreviations and Acronyms

CI: Confidence Interval df. Degrees of Freedom **F:** F distribution, Fisher's ratio H0: Null Hypothesis H1: Alternative Hypothesis **LMD:** License Master Doctorate M: Mean M1: First Year Master **MD:** Mean Difference N: Number of Participants *p.* value: probability value **SD:** Standard Deviation **SEM:** Standard Error Mean Sig. :Statistical Significance SPSS: Statistical Package for the Social Sciences **t:** The sample value of the t-test statistics **TD:** Travaux Dirigés μ1: Experimental Group Mean μ₂: Control Group Mean

List of Figures

Figure1.1. An example of Cornell method	7
Figure 1.2. An example of traditional outline method	8
Figure1.3. An example of concept mapping method	9
Figure 2.4. Respondents' opinions about the questionnaire's layout	42
Figure2.5 . Respondents' opinions about any repeated questions in the questionnaire	43
Figure 2.6. Students' level at University	44
Figure 2.7. Students' scores in Sociolinguistics in the 1 st semester	45
Figure 2.8. Students' scores in Psycholinguistics in the 1st semester	45
Figure 2.9. Students' taking notes in the target modules	46
Figure 2.10. Learning note taking techniques in class	47
Figure 2.11. Students' taking notes even if a handout was provided	48
Figure 2.12. Students' relying on lecture notes in their exam preparation	49
Figure 2.13. Students' sitting closer to the lecturer	50
Figure 2.14. The tool used in taking notes	50
Figure 2.15. Students' inability to follow the teacher's explanation	51
Figure 2.16. Students' Information selection in note taking	51
Figure2.17 . The way(s) of facing difficulties with new words	52
Figure 2.18. Students' rewriting notes	52
Figure 2.19. When students rewrite their notes	53

Figure2.20. The cause(s) behind the difficulty in reading a	and rewriting notes 53
Figure 2.21. Sources used by students to complete their no	otes54
Figure 2.22. If students find themselves are looking at full	pages during revision54
Figure 2.23. Students' including information not presented	in the lecture in the exam
answer	

List of Tables

Table1.1 . Differences between formative and summative assessments
Table2.2 . Distribution of the sample 28
Table2.3 . Experimental group scores in Sociolinguistics
Table2.4 . Control group scores in Sociolinguistics
Table2.5. Group statistics of experimental and control groups in Sociolinguistics 36
Table2.6. Independent samples test in Sociolinguistics (part1)
Table2.7 . Independent samples test in Sociolinguistics (part2)
Table2.8 . Experimental group scores in Psycholinguistics
Table2.9. Control group scores in Psycholinguistics 38
Table2.10 . Group statistics of experimental and control groups in Psycholinguistics
Table2.11. Independent samples test in Psycholinguistics (part1)40
Table2.12 . Independent samples test in Psycholinguistics (part2)40
Table2.13 . Respondents' opinions about the difficulty of the questionnaire's questions
Table2.14 . Respondents' opinions about the ambiguity of the questionnaire's questions
Table2.15. Students' level when they learned how to take notes
Table2.16. Students' completing and comparing their notes with classmates49
Table2.17. Students' opinions about the importance of note taking
Table2.18. Results of teachers' interview

Table2.19. Overview of independent samples t-test results in	
Sociolinguistics	
Table2.20. Overview of independent samples t-test results	
in Psycholinguistics	66

Table of Conte

DedicationI
Acknowledgements II
Abstract
List of Tables
List of figuresV
List of abbreviations and acronyms
Table of content
General introduction
1.Statement of the problem1
2.Research questions
3.Research hypothesis
4.Purpose of the study2
5.Research design methods and procedure
5.1 sampling2
5.2. Instrumentation
5.3. Data collection
5.4. Data analysis
6. Limitations and delimitations
6.1. Limitations of the study
6.2. Delimitations of the study4
7. Significance of the study

8. Research structure
Chapter one: literature Review
Introduction
I.1. Note taking
I.1.1 Note taking definition
I.1.2. Note taking methods
I.1.2.1. The Cornell method6
I.1.2.2. The outline method
I.1.2.3. Concept mapping method
I.1.3. Reviewing notes
I.1.4. What information should be included
I.1.5. Researchers' views about the benefits of lecture note taking
I.1.6. Teacher's contribution in students' note taking
I.2. Summative assessment
I.2.1. Summative assessment definition16
I.2.2. The difference between summative and formative assessments
I.2.3. Key features of summative assessment
I.2.3.1. Validity of assessing
I.2.3.2. Reliability in measurement and scores
I.2.3.3. Transparency in testing and judgments
I.2.4. Functions of summative assessment
I.2.5. Types of tests

I.2.5.1. Norm-referenced tests	24
I.2.5.2. Criterion-referenced tests	24
I.2.6. Problems with summative assessment	26
Conclusion	
Chapter two: Research Methods and Discussion of Results	
Introduction	27
II.1. Research methods	27
II.1.1. Sampling	27
II.1.2. Instruments	
II.1.2.1. T-test	29
II.1.2.2. Students' questionnaire	29
II.1.2.3. Teachers' interview	29
II.1.3. Data collection	
II.1.3.1. T-test data collection	30
II.1.3.2. Students' questionnaire data collection	31
II.1.3.2.1. Piloting the questionnaire	31
II.1.3.2.2. Administration of questionnaire	31
II.1.3.3. Teachers' interview data collection	32
II.1.4. Data analysis	
II.1.4.1. T-test data analysis	33
II.1.4.2. Students' questionnaire data analysis	33
II.1.4.3. Teachers' interview data analysis	33

II.2. Results and discussion
II.2.1. T-test results analysis
II.2.1.1. T-test results analysis in Sociolinguistics
II.2.1.1.1. Experimental group achievement
II.2.1.1.2. Control group achievement
II.2.1.1.3. Two independent samples of control and experimental
groups in Sociolinguistics
II.2.1.1.3.1. Group statistics in Sociolinguistics
II.2.1.1.3.2. Independent samples test for equality of
variances in Sociolinguistics
II.2.1.2. T-test results analysis in Psycholinguistics
II.2.1.2.1. Experimental group achievement
II.2.1.2.2.Control group achievement
II.2.1.2.3. Two independent samples of control group and experimental groups in Psycholinguistics
groups in r sycholinguistics
II.2.1.2.3.1. Groups statistics in Psycholinguistics
II.2.1.2.3.2. Independent samples test for equality of variances
in Psycholinguistics
II.2.2. Results of students' questionnaire
II.2.2.1. Results of piloting the questionnaire
II.2.2.1.1. Results of the pilot questionnaire's opinionnaire
II.2.2.1.1.1. The difficulty of the questionnaire's
questions

II.2.2.1.1.2. The attractiveness of the questionnaire's
layout
II.2.2.1.1.3.The ambiguity of the questionnaire's question
II.2.2.1.1.4. Repeated questions in the questionnaire43
II.2.2.2. Results of questionnaire
II.2.2.2.1. Background information
II.2.2.2.1.1. Students' level at University
II.2.2.2.1.2. Students' scores in Sociolinguistics in the 1 st semester
II.2.2.2.1.3. Students' scores in Psycholinguistics in the 1 st semester
II.2.2.2.1.4. Students' taking notes in the target modules
II.2.2.2.2. Note taking
II.2.2.2.2.1. Learning note taking techniques in class
II.2.2.2.2.2. Students taking notes in case a handout is provided
II.2.2.2.2.3. Relying on lecture notes in the exam preparation
49 II.2.2.2.2.4. Completing and comparing notes with
classmates
II.2.2.2.5. Sitting closer to the lecturer
II.2.2.2.2.6. The tool used in note taking
II.2.2.2.2.7. Students' writing speed in taking notes51

II.2.2.2.2.8. Students' information selection in note
taking51
II.2.2.2.2.9. The way(s) of facing difficulties with new
words 52
II.2.2.2.2.10. Students' rewriting notes
II.2.2.2.2.11. The cause(s) behind the difficulty in
reading and rewriting notes
II.2.2.2.12. The source(s) used to complete their
notes54
II.2.2.2.13. If students find themselves are looking at
full pages during their revision 54
II.2.2.2.14. Students' including information not
presented in the lecture in the exam answers.55
II.2.2.2.15. Students' opinions about the importance of
note taking56
II.2.3. Results of teachers' interview
II.2.4. Discussion of results
II.2.4.1. T-test discussion of results
II.2.4.2. Students' questionnaire discussion of results
II.2.4.3. Teachers' interview discussion of results
Conclusion
Recommendations
General Conclusion
Bibliography

Appendices

Appendix 01. Students' piloting questionnaire	.83
Appendix 02. Students' questionnaire	. 87
Appendix 03. Teachers' interview questions	.90
Appendix 04. Example of experimental group notes taken by hand in Sociolinguisti	cs
course	91
Appendix 05. Example of experimental group notes taken by P.C in Sociolinguistic	S
course	92
Appendix 06. Example of experimental group notes taken by hand in	
Psycholinguistics course	93
Appendix 07. Exam questions for Master1 in Sociolinguistics	94
Appendix 08. Exam questions for Master 1 in Psycholinguistics	96
Appendix 09. Example of experimental group answers in the Sociolinguistics	
exam	97
Appendix10. Example of experimental group answers in the Psycholinguistics	
exam	100
Appendix 11. Example of control group answers in the Sociolinguistics exam	104
Appendix 12. Example of control group answers in the Psycholinguistics exam	106

ملخص

General Introduction

Introduction

For studying efficiently and managing their learning, students use different strategies and methods that fall under the umbrella term "study skills". Those skills and strategies are considered critical for learning throughout one's life. They can help students to save time and effort in the classroom and during their revision and self-study time. More specifically, they include any skill which supports a student's ability to learn, retain and recall information, and pass any exam, and this could include note taking.

1. Statement of the problem

Information presented in class, doubtlessly, formulate the core of the exam questions. Many students use note taking in class as a key skill to study easily and score well. This skill may affect their comprehension, concentration, and memory. However, some students do not realize the importance of note taking and active listening in class. Fortunately, it can be developed through time and practice. The primary focus of this investigation is to determine the effect of note taking on the academic achievement of M1 students in the department of English language at Biskra University in Sociolinguistics and Psycholinguistics courses.

2. Research questions

The present study is conducted to answer one main question that is:

- To what extent is note taking useful for M1 students in Biskra University in Sociolinguistics and Psycholinguistics modules?

In addition to this main question, the current investigation attempts to address the following subquestions:

- What is the contribution of teacher(s) in students' note taking in class?
- Does note taking enhance M1 students' academic achievement in sociolinguistics and Psycholinguistics modules?

3. Research hypothesis

On the basis of the present research questions, the researcher hypothesizes that:

 Note taking may be useful for M1 students' scores in Sociolinguistics and Psycholinguistics modules.

4. Purpose of the study

The main objective of this study is to investigate the effect of note taking on students' academic achievement. More precisely, it intends to highlight its consequences on understanding, memory; and ultimately, scoring. Also, it attempts to indicate the students' role to get effective notes. In addition, it aims to shed the light on the teachers' contribution to enhance the students' notes in terms of quality and quantity as well.

5. Research design methods and procedures

The current study implements a triangulation research methodology to get more accurate and valid results. This section describes the sample selection method, the research instrumentations used, and the methods used to collect and analyze the resulting research data.

5.1. Sampling

This study is conducted in the Department of English language at Mohammed Kheider University of Biskra; specifically, with M1 students of "Sciences of Languages" branch. To collect reliable and valid data, a purposive sampling is taken abroad for the quasi experiment. As a representative sample of whole population, the researcher chooses 10 M1 students who take notes in Sociolinguistics and Psycholinguistics courses, and 9 others who do not take notes. Moreover, a random sampling is used for the questionnaire administration, and a convenience sampling for the interview.

5.2. Instrumentation

Aiming at gaining reliable results, quasi-experiment is conducted as a part of this research; mainly, nonequivalent groups posttest-only experiment .Also, a semi-structured questionnaire for students, and a semi-structured interview with both teachers of the modules.

5.3. Data collection

In order to guarantee the hypothesis' validity, answer the research questions, and reach the aim of the study, three main tools are used. A quasi-experiment is designed. It is conducted on two groups: an experimental group and a control group. The experimental group participants take notes in the Sociolinguistics and Psycholinguistics courses. However, the control group does not. Besides, their scores in these two modules are compared to examine the effect of note taking on their academic achievement.

Additionally, a semi-structured questionnaire with yes/no questions, multiplechoice items, and open ended questions for students is designed to check whether the sample take notes or not, their marks, and the way they take notes in class. Since the targets of the survey are language learners studying within an institutional context, this research follows the group administration way. Before its administration, the questionnaire is piloted to 5 students in order to validate it.

Finally, a semi-structured interview with both teachers of Sociolinguistics and Psycholinguistics modules is used to check whether teachers can differentiate between the students who take notes and who do not take notes according to their exam answers, and to get insights into the way(s) teacher (s) may use to help students get effective notes.

5.4. Data analysis

The current research adopts a deductive based analytical strategies and procedures relying on the findings of the field work. A quantitative data analysis is carried out to analyze the data gathered from the t-test and the questionnaire. After encoding the data gathered from the t-test through using the SPSS package, inferential statistics is used to link the results with the hypothesis and to check its validity. Besides, descriptive statistics is used for analyzing the data obtained from students' questionnaire, after encoding them through using the Excel program. However, a qualitative data analysis is used in the analysis of the interview recordings; mainly, using the content analysis.

6. Limitations and delimitations

6.1. Limitations

This study inevitably contains some limitations. The first limitation of this investigation is the fact that some students can be cheating in the test or exam. This behavior negatively impacts the results and, in turn, the internal validity of the research. The second limitation lies in the participants' absence in some lectures. Lastly, the truth that cannot be neglected is that students have different cognitive abilities. Therefore, the results of this study should be considered with its limitations.

6.2.Delimitations

This study concerns itself with the effect of note taking on M1 students' scores in Sociolinguistics and Psycholinguistics modules. It is limited mainly to Sociolinguistics and Psycholinguistics courses, because the latter are considered as a content modules. So, they need taking notes in class. Also, the researcher chooses these two modules intentionally to get more opportunities to have different scores for the same participants. Therefore, the results will be more valid. In addition, M1 students are selected specifically because they are, normally, experienced in note taking and they are taught how to take notes while taking their Bachelor degree.

7. Significance of the study

Note taking has been drawing several researchers' attention for a long time. The current study attempts to contribute to the existing body of knowledge regarding both note taking and the students' scores. It also seeks to allow teachers better understand the effect of note taking on their students' performance in the exams and tests they design for their classes.

8. Research structure

This research consists of two main chapters; each chapter contains two main sections. The first chapter summarizes the previous researches findings about both note taking and summative assessment. Besides, the second chapter is devoted to the field work of this survey. It includes both research methods, and results and discussion. The former explains the sampling, instruments, data collection, and data analysis used, however, the

4

latter presents the results obtained from the t-test, the questionnaire, and the interview, and the discussion of them as well. In addition to those chapters, it contains a general introduction, a general conclusion, and recommendations for students and teachers as well.

Chapter One

Literature Review

Introduction

Each student has his/her own skills and habits to study effectively, and improve his/her grades and academic performance. Note taking is one of these skills and habits. Yet, taking notes is not an easy task. To choose what is important and what is unimportant may be an obstacle for many students. Nevertheless, its benefits and its expected outcomes motivate many students to use it. Certainly, exam questions are based on what is presented in class. Listening actively and taking notes in lectures is one strategy used by students to capture the teacher's discourse and explanation in order to reuse them for future exams and tests. This chapter falls in two main sections. The first section reviews the main studies conducted about "Note Taking". Then, the second section identifies the bodies of literature relevant to "Summative Assessment".

I.1.Note taking

Note taking can be used to remember important information in different situations. In educational contexts, students may take notes from conferences, lectures, or books. This survey is limited to taking notes from lectures only.

I.1.1. Note taking definition

Note taking in lectures is a study skill used by many students. It is a short hand recording of information presented by the teacher either orally or written on the board. "Note taking is more personal and complicated process that serves to enhance the clarity of the information presented through summarization of long stretches of information, paraphrasing the lecturer's words, and highlighting certain items to make them more salient"(Jordan, 1997, cited in Shaw & Hyland, 2016, p:172). In the same way, note taking is reviewing rapidly a summary of the important points presented in the lecture, a meeting, or a text (Education, 2011). However, Wetzels, Kester, Van Merriënboer, & Broers

(2011), related note taking to exams, as a strategy used, subsequently, in exams. Range (2015) adds that note taking is a means to remember information. Similarly, Flowerdew (1994) states "note taking is a useful record for later recall and reconstruction of lecture content when studying" (p: 76). On the whole, those researchers agree that note taking is a quick recording of the main ideas presented in the lecture.

I.1.2. Note taking methods

Abundant methods have been developed to take notes. Some of them are quite easy to apply; however, some others require more steps and strict details. Thus, students may change the method or stop taking notes completely. The following common methods suggested by researchers to be used to get more effective notes:

I.1.2. 1.The Cornell method

This method is considered as the most effective method. It was invented in 1950s by Walter Pauk, who taught at Cornell University (Education, 2011; Ellis, 2016). This method uses three columns: The cue column (during class and review), the notes column (during class), and the summary (after class and review).

- 1. The cue column: "a wide margin on the left-hand side of the page" (Ellis, 2016, p:59), it is nearly one-third of the latter. More precisely, it is about 2.5 inches from the left side of the sheet (Education, 2011). This column is used to write key questions, key words, and headings (Ellis, 2016). It helps to remember the main ideas, facts, and questions presented in the lecture (Education, 2011). The student uses this section after the lecture to highlight the key words and concepts for the purpose of recalling them quickly.
- 2. The notes column: this space is used during the lecture. It is the right-hand side of the sheet. It is the "the largest section" (Education,2011,p: 117). The student can use any another method in this column such as outlining and mind mapping (Education, 2011). The notes column makes this system more flexible and effective than the other systems, since the student may include any other method that s/he feels at ease with. It describes and provides more details about the information included in the cue column.
- 3. **The summary column:** The last column that is left for summarizing the main ideas and information is the bottom section, it is about two inch space. The student may summarize briefly the main points in the sheet or that could be included in the exam. This activity helps the student to transfer the information from the short-term

memory to the long-term memory (Education, 2011; Ellis, 2016; Quintus, Borr, Duffield, Napoleon, & Welch, 2012). So, it can be seen as a form of carving the information in memory. So that, students will not forget them easily.

(CUE COLUMN) What are The 3	Phase [: Before you Read
phases of Muscle	Phase 2: while you Read
Reading?	Phase 3: After you Read
What are The steps	1. Preview 2. Outline
What are the steps in Phase 1?	3. Questian
what are the stops	4. Focus 5. Flay answers
what are the steps in Phase 2?	J
What are the stros	4. Recite 7. Review
What are the steps in Phase 3?	B. Review Again
What's an acronym	PullutQuistions
for Muscle Reading?	Prylut Quistions Fours Elog answers Regite Review Review again
5 Musile Reading in	ncludes 3 phases: before, during
m and after reading	ng. Each phase includes
A all the steps.	Be the acronym to recall

Figure 1.1: An example of Cornell method (Ellis, 2016, p.157)

The above figure (figure1.1) illustrates an example about the cornell system of note taking. As it is shown, it contains three main parts. The cue column that includes 5 questions, the notes column comprises different notes. It is clear that each question is related to its notes in the notes column. Finally, in the bottom of the page, there is the summary column which summarizes all what is written in the notes in the form of a paragraph.

I.1.2.2. The outline method

This method is very popular and familiar to many students. It provides a clear structure to the information, thus, it offers a good retrieval for information (Harrigton,2015). However, it can be difficult, if the lecturer does not follow an organized structure (Macdonald,2014; Van Blerkom,2011). The outline method follows an ordered structure, "from general to specific" (Ellis, 2016, p:60) starting from the main topic with a roman numeral (I,II, III, and so on) in the top of the sheet. Then, the subtopics are stated

below the main topic with letters (A,B,C, and so forth). Commonly, each subtopic will have more than one supporting detail (Macdonald, 2014). These supporting details may be facts, examples, or any other detail. They are supposed to be under each specific subtopic with lowercase roman numerals (i, ii,iii, and so on). The student may include as many supporting details as they are presented by the lecturer. If s/he can place it below any other sub-detail (s), s/he can place it below its supporting detail with lowercase letters, or any other sign (Ellis, 2013; Harrigtom, 2015; Macdonald, 2014). The outline method is an easy way to organize the content of the lecture, however, Van Blerkom (2011) asserted that the student should not focus on the organization of the notes more than on the information presented in the lecture.

To solve this problem, Macdonald (2014) suggested that typing the notes may be a better way to modify the notes' organization than handwriting them. In fact, the outline method is not a difficult way of organizing data, nevertheless, the student should be aware about the content and the organization as well.

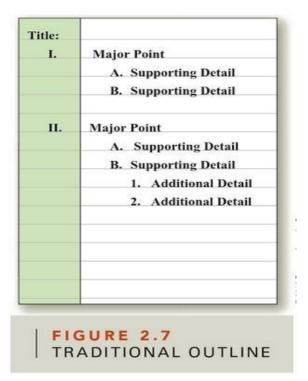


Figure 1.2. An example of traditional outline method (Harrington, 2015, p.61)

The above figure shows an example of using the outline method in taking notes. As it can be seen, this paper contains a title and two major points. Each major point encompasses two supporting details. However, the second supporting detail in major point

II includes two additional details. There is a sequence in the organization of notes. Major points took roman numbers, the supporting details took capital letters, and the additional details took natural numbers.

I.1.2.3. Concept mapping method

Concept mapping is another strategy that can be used to take notes. It starts few inches from the top of the page (Kanar, 2014). Putting the main topic in the centre of the page, "usually with a circle around it" (Davis, 2012, p:71). Then, any relevant subtopic is related to the centre through a link that forms a coherent visual sentences (Ellis, 2016). If the lecturer presents any new subtopic, the student will automatically draw a new branch for it. Following the same manner, the student draws a link for the examples relating them to their subtopics. In such away, s/he will formulate a number of clusters that helps him/her to remember all the elements of the lecture in a visual way.

This system is appreciated by many scholars. In the first place, through using diagrams, pictures, lines, symbols, and colors ,this strategy activates both sides of the brain: logical and visual. (Davis, 2012; C. Staley & S. Staley, 2016). So that, it fits the different learning styles, especially, the visual and kinesthetic learner (C. Staley & S. Staley, 2016). In other words, visual students can learn better through using colors and diagrams. Whereas, kinesthetic learners can understand better if they draw and write. Additionally, according to Buzan (2013), mind mapping is an effective technique since it offers a rapid accurate review for all the ideas presented in the lecture . Malone (1997) added that mind maps grant a great flexibility unlike outlining or writing full paragraphs. Indeed, this flexibility lies in the students' ability to modify and add new items in the map or diagram.

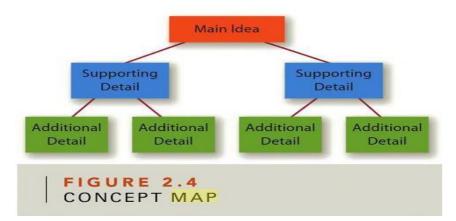


Figure 1.3 An example of concept mapping method (Harrington, 2015, p.59)

Figures1.3 represents an example of concept mapping method in note taking. It shows the main idea in the center and supporting details are related to it through a link. In like manner, the additional details are related to the supporting details.

I.1.3.Reviewing notes

The process of note taking does not stop at the level of taking notes in the classroom. Reviewing the notes is an integral part of the process (Ellis,2013). According to Kobayashi (2006), taking notes helps to encode the data, however, reviewing them integrates in their external storage. Ellis (2013) added that the key of reviewing notes is encoding new information and moves it to the long-term memory as well. Moreover, many researchers assert on reviewing notes after the lecture directly or at least in the 24 hours later. Ellis (2013) and Coon and Mitterer (2013) suggested that the student may clarify unclear abbreviations, complete missing ideas, make connections, and summarize briefly key details or definitions. The reason behind reviewing the notes within the 24h of the lecture is the limited capacity of the working memory. Students may forget what has been presented in the lecture, especially, if the material is difficult and needs more concentration. So, editing the notes at the earliest possible will enhance the quality and quantity of the notes.

Students use different ways in reviewing their notes according to the nature of the exam questions and their learning styles. Van Blerkom (2011) suggested three ways to review notes, claiming that just reading the notes is a passive activity, whereas reciting the information is more fruitful way to review notes. the first way to review notes suggested by Van Blerkom is reciting from the headings. This technique of reviewing notes is based on covering the information under the headings and trying to recall all the points related to them. In that case, the student will be able to learn the elements in an integrated way. Hence, s/he can answer essay questions, many short answer questions, and some multiple-choice or true/false questions. Secondly, when the student thinks that he knows all the information, s/he may test him/herself through reciting from the recall questions to check whether s/he really absorbs all the content of the lecture or not. Accordingly, it will help the students to learn the material in an isolated manner and to discriminate between confused details. For this reason, this way is helpful to answer multiple-choice, true/false, completion, and matching questions. Finally, discussing with others is another way to transmit the information into the long-term memory. In fact, exchanging notes with a

11

classmate or reviewing notes in groups consolidate the information in the students' minds. Thus, it creates additional opportunities to predict further exam questions or test each other as well.

Reviewing notes regularly not only helps students to fix the information in the longterm memory but also to form a clear coherent correlation between all lectures. King (1992) argued that reviewing notes creates links between the different components of the lecture and between the prior and subsequent knowledge. Consequently, students can have a global comprehensive view about all the syllabus. Correspondingly, Kiewra ,1985, cited in Coverly & Flippo, 1999) asserted that reviewing both the lecturer's notes and student's notes complete each other to form an accurate skeleton of information. If the teacher provides students with his/her notes by the end of the lecture, the latter can modify their notes and improve them. Besides, teachers may improve their notes through students' discussions and interventions in the lecture as well. In essence, having the habit of reviewing notes regularly supports the claims of the constructivist view of learning that learning is an active and construction of knowledge process.

I .1.4.What information should be included

Note taking is not only recording information. It is making information meaningful through making connections between the new information to the existing knowledge. These connections help students understand better and retrieve easily the lecture content (Podder,2004). To put it differently, during taking notes, students are mentally active. They construct relations between information, and they build mental systems and frameworks. Thus, when students take notes are not really passive but rather they are active. Therefore, they comprehend better and recall the information presented in the lecture effectively.

Many students have a problem in selecting what to write. They ask what should they write down?, actually, there is no accurate answer to that question (Van Blerkom,2011). Taking notes is not coping down all what the lecturer says. Kesselman-Turkel & Peterson (2003); Kuther (2015); Podder (2004); McKeachie & Svinick (2013) asserted that the student should be selective . S/he should not write every detail, rather, s/he has to take the main points. Podder (2004) added that condensing, organization, rephrasing, and elaboration of the information are also necessary to take notes effectively. That is to say, while students take notes, they summarize, paraphrase, and they cite some information, such as definitions, as they are. Furthermore, Ellis (2016) insisted that note taking is capturing key words claiming that " key words or phrases contain the essence of communication" p.155. In fact, distinguishing what should be taken and what is not is a difficult task for students.

Several researchers recommended different standards so as to help students to take effective notes. Kesselman-Turkel & Peterson (2003) suggested four criteria for deciding what is worth preserving that are: The information's category (fact/ opinion), their relevance to the topic, their importance, and the student's personal view. In addition, Ellis (2016) advised students to focus on nouns and verbs since they carry the meaning of the sentence(s). Besides, he added that focusing on key words is necessary but not adequate. Repeating slowly a sentence by the teacher indicates its importance, equally, technical definitions entail a necessity to be written completely in order to keep their correctness and essence. Eventually, students need to be alert and concentrated to differentiate between what really need to be taken and what do not. what has been written above support the claim of many scholars such as Flippo & Caverly (2009); and Charles & Pecorari (2016) that note taking is a highly cognitively demanding process.

I .1.5. Researchers' views about the benefits of lecture note taking

Like time management and decision making, note taking is seen by students to be helpful in becoming successful in college. "Note taking is a muscle activity" (Turkel & Peterson, 2003,p:3). It is considered as a valuable strategy to remember information presented in class and to recall them during exams. Research studies proved that students may forget 50% in about two weeks, and 95% within one month only (Van Blerkom, 2011). "This explains why some students have difficulty on exams" (Van Blerkom, 2011, p:116). Researchers see note taking from three different angles in terms of its product and the process of note taking itself.

On the one hand, Boyle & weishaar (2001); Dyer, Riley, & Yekovitch (1979); Einstein, Morris, & Smith (1985); Horton, Lovitt, and Christensen (1991); Howe (1974); King (1992); Ladas (1980); Nist & Hogrebe (1987); Oakhill & Davies (1991); Smith & Tompkins (1988); Thomas (1978); and Williams & Eggert (2002) focused in their studies on the quality of the notes themselves concerning the selection and organization of information recorded. In addition, McPherson(2007) added that verbatim notes (taking notes word by word) are useless, with minimal value . Thus, the selection of information needs to be considered . Referring to C. Staley & S. Staley (2016) in their book «Focus on College and Career Success», students mostly only record less than 40% of lectures' main ideas, and this is one of the reasons why they don't get straight A's.

In contrast, Barbier, Roussey, Piolat, & Olive (2006) argued that the quantity and quality of notes are essential . Besides, Gore (2010) claimed that note taking has both process and product functions. He added that the process of note taking is manifested in encoding new information and this is the essence of learning. Whereas, the notes play the role of subsequent external storage. This view seems to be more convincing, because students are mentally active, when they take notes. They summarize, paraphrase, and make connections between information. Equally, the notes taken in the lecture are considered to be a concrete material that can be used in the exam preparation.

On the other hand, other different research studies assert the importance of the note taking process. "The act of note taking is more important than the result" (McPherson, 2007, p:5). Furthermore, according to Crawford (2016), note taking plays two distinct functions on the learner comprehension: the encoding function and the storage function. The encoding function referred to paraphrasing, organizing, and encoding the information in the brain as well (McPherson, 2007; Ritchie & Thomas , 2014). Podder (2004) added that connecting the new information presented in class and the previous knowledge helps students to understand better and to retrieve those information easily. Furthermore, it is helpful in loading the information in the working memory ; in turns, it helps students to resolve complex problems (Boch & Piolat , 2005). Also, reviewing the notes taken reinforces the storage in the long term memory (Slotte, & Lonka, 2001). It is true that the process of taking notes helps students to understand better, however, students are not able to recall all the information presented in the lecture without reviewing their notes. They may remember the lecture content for one week, for example, but they cannot do so after two or three weeks. They have different courses and lectures per week. Therefore, if the note taking process helps in understanding knowledge, the notes taken help to remember the lecture's content.

Despite the fact that many scholars consider note taking as a guarantee for students' success, Palkovitz & Lore (1980) claimed that it does not ensure good test performance. Besides, Baker & Lombardi (1985) found that 82% of the correct exam answers were associated with the presence of note taking. However, 66% of the wrong answers were too. Likewise, they concluded that "students who performed well on the exam and those

performed poorly did not differ in the quality of their notes" (Baker & Lombardi, 1985). as has been noted, even if all the students in the classroom take notes, their answers and academic achievements may differ. This difference may be because of their cognitive abilities or the way they treat and review their notes after class. So that, having a good quality of notes does not ensure a high level of achievement.

I .1.6. Teacher's contribution in students' note taking

Generally, most students fail to differentiate between what should be taken and what should not. According to Kiewra (1985) summary of research cited in Potts (1993), even good students fail to take all the important details. Many researchers (such as Boch & Piolat, 2005; Mascolo, Alfonso, & Flanagan, 2014; potts, 1993) gave a great importance to the role of the teacher in enhancing the quality and quantity of the notes taken by students. They argued that the teacher may use different techniques to achieve this purpose:

- 1. **Providing clear cues:** In order to highlight an important element, the teacher may use either verbal or visual cues. Verbal and visual cues can help students to recognize important information, as well as, the relationships between the presented details. Verbal cues include saying phrases like " listen carefully". Besides, Visual cues may include writing on the board, diagrams, charts, using slides, or any other visual support (Boch & Piolat, 2005; Flippo & Caverly, 2009; Williams & Eggert, 2002). However, some teachers may wrongly fill the board or the slides with information thinking in such way they help students to write as much as they can. Boch & Piolat (2005) advised that the teacher should carefully select what to include in the visual aids. Certainly, teachers should be aware about what they say and what they write on the board or the slides, because if they emphasize in the speech on unimportant element or they write too much in the lecture, the students will be confused about what to write. Consequently, the quality of their notes will be influenced negatively.
- 2. **Dictation:** If the teacher wants to show the importance of an element (especially definitions), s/he can dictate it directly with low vocal register (Boch & Piolat, 2005). Dictation can be considered as a direct message to the students that certain information is important and it deserves to be taken. In such manner, the teacher can ensure that all students took this particular knowledge.

- 3. **Pace:** Slower pace in the teacher's voice is an indicator that the element is important and it needs to be taken. Referring to De Zure, Kaplan & Deerman 2001, more difficult and new items require slower pace to be well explained. That is to say, slow pace in explanation gives the students an opportunity to understand better and take complete notes. However, teachers cannot explain all the lecture slowly, because they have limited time, and even students may feel bored. So, they lose interest and attention. Thus, varying the teacher's explanation pace is necessary in the classroom. Important information should be presented in a slow pace, whereas, additional details should be presented quickly.
- 4. Pauses: Dividing the lecture into segments gives the students an opportunity to discuss and edit their notes (Mascolo, Alfonso,& Flanagan, 2014; Flippo & Caverly, 2009). In such way students will approximately get better grades. Hence, pauses can be used as an instrument to aid attention and encoding information (Cepeda, Pashler, Vul, & Wixted, 2006). In that case, students become able to review their notes regularly and ask the teacher for any further explanation and clarification. At the same time, the teacher should be careful because these pauses may be a chance for some students to make noise and problems.
- 5. Handouts: Many researchers (Mascolo, Alfonso, & Flanagan, 2014; Flippo & Caverly, 2009; Potts, 1993, to name but a few) asserted the importance of handouts as an aid for students to complete their notes. However, there is a great debate about the nature of the notes provided by the teacher; whether to provide students with full notes or partial notes only. The first approach encourages teachers to provide a full transcripts of lectures in order to help them to catch all important details. Nevertheless, giving students a written document about the lecture may encourage their absences or they may stop taking notes (Potts, 1993). Those drawbacks led some scholars to find an alternative approach that is providing partial notes. According to Potts (1993), students who received partial notes from their teacher retrieve better than those who received a full notes or no notes. "Several formats for partial notes have been examined, from outlines, to matrices, to skeletal guide" (p.2). However, the skeletal format is widely used. In such case, the student is provided with the main ideas of the lecture with empty spaces left for writing relevant details. Those notes can be considered as an effective strategy to guide students to take better notes. Overall, students should review both their notes

and the teacher's notes ; whatever the format used (Mascolo, Alfonso,& Flanagan, 2014).

Besides these strategies that trigger note taking, Boch & Piolat (2005) suggested others that show the less important details such as :

- Interactions between the teacher and the students or among students themselves.
- The teacher's hesitation in speaking.
- Some paralinguistic behaviors; for example, when the teacher puts his notes and walks in the class.
- Faster pace in the teacher's explanation.

Given those points, the teacher can contribute in the students' note taking process directly or indirectly. So that, s/he can enhance both the quality and the quantity of their notes. Generally speaking, studying effectively requires lifelong studying habits. Nevertheless, developing such habits is not an easy task for students. They need some help to do so, as is the case with note taking.

I.2. Summaive assessment

The term "assessment" includes the different methods and techniques that are used to measure not only learning but teaching as well. Generally, there are two main types of assessment: summative assessment and formative assessment. This research is concerned with summative assessment only.

I.2.1.Summative assessment definition

There are different definitions for summative assessment, but they all agree that it is a final step after a specific instructional period of time whether this period is short or long. In the first place, according to Phye (1996) and Liu (2010), Summative assessment is any activity used at the end of a period of learning. It may occur at the end of a marking period, semester, or academic year. Chiefly, the results are reported in a form of marks or grades. According to Heritage (2014) cited in Everhard & Murphy (2015), it is a process used to measure what students have learned and their progress. The word "process", here, indicates that there is a set of activities required from the teacher and the students as well.

Furthermore, other scholars added more definitions to summative assessment. Ehringhous & Garrison (2007) considered this type of assessment as a set of tests used to evaluate or diagnose the learning outcomes at the end of a lesson, semester, or a school year. These researchers focused in their definition on the function of summative assessment that is evaluation and diagnosing the consequence (s) of the learning process, unlike formative assessment which aims to enhance learning and teaching as well. The function of evaluating learning outcomes indicates that there are specific objectives set from the beginning of learning. So that, summative assessment verifies whether those objectives are obtained or not. Additionally, McTighe & O'conner (2005) defined summative assessment as an instrument to summarize what students have learned after a pedagogical period of time. They added that this type of assessment may include "tests, performance tasks, final exams, culminating projects, and work portfolios" (p.10). Unlike Ehringhous & Garrison's definition, McTighe & O'conner added different forms that summative assessment can take the form of not only tests. This diversity of forms makes summative assessment more flexible and effective tool of evaluating students' knowledge, abilities and skills.

Although some scholars such as Everhard & Murphy (2015) differentiated between assessment and tests, McManus (2008) mentioned that summative assessment is any form of evaluative tests that "can include selected- response items such as multiple-choice, true-false, or matching. Tests can also include written-response items that are short (e.g.,1-2 sentences) or extended (e.g., one or more paragraphs. Performance assessments, portfolios, and presentations can fall into this category)" (p.19). This definition is different from the above definitions, it provides more details about the nature of the questions included in such type of assessment. As it can be seen, McManus consider the expression "summative assessment" equals the term "test", and any other form that summative assessment can take is included under the umbrella term "test".

As has been noted, despite the many definitions given to summative assessment, all the above scholars agreed that it is any kind of activity that is used after a certain didactic instruction(s) to examine the students' attainment and academic level.

I.2.2. The difference between summative and formative assessments

Teachers use different types of assessment according to their objectives. They use two main types of assessment in the classroom: summative assessment and formative assessment. The distinction between these two types of assessment was first discussed by Michael Scriven in 1967. Then, it applied to the assessment of students (Marzano,2006). Scriven firstly distinguished between summative assessment and formative assessment from their broad perspective, then his view was reflected to education and in the classroom. Although, the discussion about the difference between these two forms of assessment started from early ages, many students, even some teachers, still confuse between them.

Scriven's first discussion about the difference between summative assessment and formative assessment raised a great debate about this issue. In the first place, according to Heritage (2010), summative assessment concerns summarizing students' attainment to help administrators to make judgments about learning quality , however, formative assessment is related to the use of students' responses to improve learning, so that, it helps administrators to improve the curriculum. Actually, they have different aims. Summative assessment is used to examine the students' progress and realizations, while formative assessment's aim is to improve learning. Furthermore, Butterfield & Riding (2003) and Marzano (2006) added that formative assessment occurs in the instructional time as a part of the learning process, whereas, summative assessment comes later, as a final stage of the instruction to measure the students' performance. Those researchers saw the distinction between these two types of assessment from another angle that is "time". To clarify, formative assessment is an ultimate judgmental step in this process.

An equally significant distinction between summative assessment and formative assessment is the participants' ultimate goal. Referring to Everhard & Murphy (2015), summative assessment is used to measure the learning outcomes and to get a degree or a certification. On the contrary, formative assessment is used for future enhancement of the teaching and learning processes. To put it another way, the former is used to obtain a certain qualification for future studies or getting a job, while the latter is used to promote teaching and learning as well. What is new in their view is that formative assessment enhances teaching not only learning. So that, even the teacher gets benefits from this type

of assessment. Additionally, McManus (2008) provided the following table that differentiates between these two types of assessment:

Formative	Summative
1. Occurs during instruction	1. Occurs at the end of an instructional unit
2. Ongoing	2. Periodic
3. Descriptive feedback	3. Evaluative feedback
4. Not graded	4. Graded
5. A Process	5. A Product

Table1.1. Differences between formative and summative assessments (McManus, 2008, p.23).

As it can be seen, the above table summarizes several differences. Both the first and the second differences in the table are related to time of assessment. The third and the forth differences are related to grading and feedback; formative feedback is descriptive without any judgments ,however, summative feedback is evaluative, judgmental, and it classes students. The last difference indicates that formative assessment is included within the learning process, while, summative assessment is a final result.

Despite these differences, summative assessment and formative assessment can be used together. The teacher can start with formative assessment to make some necessary modifications aiming at enhancing learning and teaching process, and as a form of students training as well. Then, s/he uses summative assessment as a final step to make summative judgments. In fact, even summative results can reflect to what extent the teaching process was effective. Therefore, teachers can get insights about the success of their teaching method, whether it is effective or not, but teachers cannot realize the source of the problem exactly only through using formative assessment.

I .2.3.Key features of summative assessment

The main aim of any summative assessment is reporting students attainment and academic performance. Crucial judgments are based on its results. It is considered as a powerful instrument to quantify and qualify learning outcomes. However, in order to show

a high level of trustiness and getting effective results, summative assessment should be: Valid, reliable, and transparent.

I.2.3.1.Validity of assessing

One of the most important treats of summative assessment is validity. Many scholars asserted that summative assessment should be highly valid. For example, Harlen (2007), when he said " High validity is essential" (p.58). Additionally, Butterfield & Riding (2003); Ewens (2014); Shute & Backer (2010) defined validity as the accuracy of the assessment. In other words, it is whether the assessment tests what is supposed to test or not and to what extent the inferences made from the test results are accurate. Validity is an umbrella term that comprises different subtypes. Referring to Coleman & Klapper (2005), there are four subcomponents of validity:

- 1. Face validity: The first type of validity relates the test to its objectives. In other words, it is concerned with the purpose of the assessment; if it is achieved or not. It is the extent to which a test measures what is supposed to measure. For example, if a test is concerned with the students' use of punctuation, the teacher should not consider any grammar mistakes in his/her correction.
- 2. Content validity: The second type of validity is related to the knowledge and skills that should be included in the test, because if the teacher neglects any important element in the syllabus, it will affect negatively the learning outcomes measurement. For this reason, s/he should select carefully what to include in the test or exam.
- **3. Construct validity:** Construct validity is different from face validity and content validity, this kind of validity is concerned with testing abilities. It is important to realize that teachers may assess not only knowledge and skills but also abilities. If the test does not measure the ability that is supposed to measure, it is invalid.
- 4. Criterion-related validity: "To what extent do test results with those derived from an independent and dependable measure of a student's ability" (p.82). Simply put, this type of validity measures how well the results obtained predicts results for another situation. For instance, A graduate student takes a master's degree. This degree has been shown as an effective indicator (i.e. it has criterion validity) for how well a student will perform in graduate studies.

They added that if the teacher wants to conduct a valid assessment, s/he has to start with defining learning outcomes (knowledge or skills) firstly i.e., to have a clear purpose.

Then, choosing an effective way to reach them. Thus, s/he can capture effectively the important knowledge and skills that require to be assessed.

I .2.3.2. Reliability in measurement and scores

Researchers gave two different concerns of reliability for summative assessment. On the one hand, it can be explained as "the consistency of measurement" (Butterfield & Riding, 2003, p.288). To clarify, if the test repeated in the same conditions, the students should get nearly the same marks. On the other hand, Coleman & Klapper (2005) related reliability to the results. They insisted that assessment's results becomes reliable only if all students are treated with the same criteria and standards regardless who they are or who is marking the work. Here, fairness and equity are concerned too (Irons,2008). Undoubtedly, the teacher's fairness affects the students' marks and in returns the assessment reliability. Summative assessment results are important, especially in making decisions and judgments. Thus, students are affected from those decisions, specifically, in entering schools or further or higher education courses (Harlen, 2007). For that reason, reliability is necessary. By the same token, Irons (2008) mentioned that assessment can be reliable only if it is " objective, accurate, repeatable, and analytically sound" (p.11). He summarized all what has been said above concerning objectivity and repeatability and he added "accuracy" and "analytically sound". Accuracy is more related to the assessment validity i.e., validity is prerequisite to reliability. However, "analytically sound" indicates that the results require to be accurate, measurable, and examine specific knowledge and skills.

I .2.3.3.Transparency in testing and judgments

In assessment, clarity is an essential condition. Many scholars asserted on its importance in assessment such as Jansen & Christie (1999) when they said "the use of transparent criteria is very important" (p.257). There should be no surprises for students or any hidden staff (Race, 2001). In other words, students should not find any question which they do not study its answer beforehand. The questions should be limited to the curriculum. Besides, students need to understand the instruction carefully. According to Coleman & Klapper (2005); and Gravells (2015), the teacher needs to confirm that every student understands what is expected from him/her. Standards for assessment should be clearly clarified for students. To rephrase it, students need to be informed about how they are supposed to perform. Coleman & Klapper provided an example, in the case of an essay

test, the requirements should be stated openly beforehand: "acquisition of knowledge, interpretation and analysis, construction of argument, relevance of material, and documentation and presentation" (p.83). The criteria of correction should be clear for students before assessing them. Besides, Gravells added that the teachers' honesty with their students is a requirement for assessment transparency. Notwithstanding, the above scholars related transparency to students, Wyatt-Smith, Klenowski, & Colbert (2014) stated that transparency in summative judgments between teachers of different subjects or even different schools supports coherence and collaboration between them and improving learning quality. In both cases, transparency and clarity are necessary in assessment.

I.2.4. Functions of summative assessment

Teachers use different forms of tasks, tests, and exams in their classrooms. This kind of assessment gives insights into the learning consequences to not only students, but to teachers, administrators, and parents as well. Research findings show that summative assessment has eight main functions:

Firstly, the primary goal of summative assessment is assessing students' academic achievement. According to Irons (2008); Long, Wood, Littleton, Passenger, & Sheely (2011); McManus (2008), such assessment examines students' attainment and academic level in a particular subject. That is to say, it measures students' skills, abilities and understanding. It indicates what they really know and what they ignore, what they are able to do and what they are not.

Secondly, summative assessment provides students with a feedback about their works and answers. Irons (2008) declared that such kind of assessment is "a means of giving feedback to students" (p.12). When students receive their corrected exam papers and their marks or grades, they can recognize their weaknesses and strengths. Even more, if the teacher provides a rubric or a correction model, students can correct their errors and mistakes so that they do not repeat them in the future.

Thirdly, summative assessment is not beneficial to only students but teachers alike. Referring to Coleman & Klapper (2005), It gives insights into the learning outcomes. In other words, It helps teachers to check whether they reached their objectives or not, because if a student fails, the teacher also fails. Thus, teachers' success is related to his/her students' success and the learning outcomes. Fourthly, summative assessment assists teachers to improve the curriculum. As Long, Wood, Littleton, Passenger, & Sheely (2011) said it serves as a "curriculum backwash" (p.55). It provides educational administrators and policy makers visions about the success of learning and teaching too. Furthermore, such assessment helps syllabus designers to examine the syllabi and courses they planned.

Fifthly, every student aims to get a high mark, so they work harder to achieve this aim. Irons (2008) claimed that summative assessment is "a means of motivating students" (p.12). Therefore, summative assessment results can encourage students to learn more. That is to say, it creates a kind of competition between students.

Sixthly, students trip does not stop after finishing their studies. Most of them move to the professional field. According to Irons (2008), such type of assessment prepares students for future life. Namely, students apply what they learned in different situations, and they become more confident to reuse what they attained in the classroom in other settings.

Seventhly, many parents usually like to be aware about their children's marks. Liu (2010) agreed that summative assessment results are reported to parents. So that, the latter can follow their children's academic achievement and progress. In like manner, they can motivate their children, reword them, punish them, and solve their problems in contact with their teachers.

Finally, many students are interested to get a degree or diploma that reflect their academic level. Black (1991) cited in Irons (2008) stated that one of the broad purposes of summative assessment is to give them this opportunity. Moreover, those students need such degree or diploma either to get further studies, a job, or even for prestige.

I.2.5. Types of tests

Tests are the common form of summative assessment used in education. They may be used for different purposes such as for testing proficiency, skills, or knowledge. Scores obtained from those tests can be treated in two different ways: norm-referenced tests or criterion-referenced tests.

I.2.5.1. Norm-referenced tests

This type of assessment is used to discriminate between students. According to Ehringhaus & Garrison (2007); Long, Wood, Littleton, Passenger, & Sheehy (2011); Miller , McIntire & Lovler (2011), norm-referenced tests compare between students' academic achievements and scores. Moreover, Brown & Hudson (2002) defined it as "any test that is primarily designed to disperse the performances of students in a normal distribution based on their general abilities, or proficiencies, for purposes of categorizing the students into levels or comparing students' performances to the performances of the others who formed the normative group" (p.2). To put it another way, this type of tests compares between students. Hence, the examiner can rank them based on their achievements in order to make decisions about their success or failure.

I.2.5.2. Criterion-referenced tests

The second type of tests is criterion referenced test. Unlike the norm-referenced test, it "compares the performance of an individual to a predetermined standard or criterion" (Caffrey, 2011, p.9). Moreover, Miller (1989) adds that it examines whether a student knows a particular knowledge or s/he has a specific skill or not. That is to say, such kind of tests examines the student's abilities and knowledge as an individual entity. Its aim is to investigate whether a student has achieved a certain knowledge or s/he masters a specific skill according to pre defined set of standards.

On the whole, both types of tests are important in education; each of them has its own benefits and drawbacks. The use of them in the classroom is based on the teachers' objectives. In this case, teachers need to test their students individually to discover their individual strengths and weaknesses, and they need to compare between students' academic achievements in order to differentiate between high and low levels of students as well.

I.2.6.Problems with summative assessment

In spite of its functions, summative assessment has some problems and shortcomings. According to Irons (2008), summative assessment is not highly effective. It "doesn't promote deep learning but encourages surface learning" (p.14). Consequently, students will focus on exams rather than on learning itself. To put it differently, students'

main aim becomes getting high marks rather than getting knowledge, so they store what they have studied in their short term memory just for the day of the exam and then they forget it. Further, if students focus on exams and scores only, the phenomena of cheating will increase, and as a result the exams and tests will lose their validity.

Equally important, many students become anxious in the day of the exam. According to Rayment (2006), such type of assessment consider students' performance on one day only regardless their performance over the year. Actually, anxiety plays a negative role in such situations. The results obtained may not reflect the students' real level. Kassim, Hanafi, & Hancock (2007) stated, "high test anxiety students tended to score lower than low test anxiety students" (p.30). in fact, many students who have a good level do not answer well in some exams, and they lose many opportunities. Moreover, Rayment (2006) added that ranking students can damage their self-esteem. To clarify, criterion referenced tests creates a competitive environment in the classroom. Students who scored well will be self confident, whereas, students who did not achieve well may become self doubting and they may lose interest.

Furthermore, summative assessment occurs by the end of an instructional period of time. It does not give a chance for teachers to enhance the learning process. Cheung, J. Fong, W. Fong, & Wang (2013); McTighe & O'clonner (2005); Mercier, Philpott, Scott (2013) agreed that assessment as a final stage of instruction does not promote learning because there is no adequate feedback and no opportunity to treat any problems in the learning process. To rephrase it, summative assessment focuses on the learning outcomes only. Its aim is not to solve learning problems. That is to say, it may reflect those problems but it does not provide neither more information about them nor solutions for them. Therefore, many researchers (Andrade & Cizek, 2010; Heritage, 2010; Tuttle, 2009, to name but a few) emphasized on the use of formative assessment besides summative assessment. In such manner, the teacher can enhance the learning process as well as examine the learning outcomes.

All in all, although these drawbacks of summative assessment, it remains a crucial area in education. Its purposes may differ from one situation to another, but generally it is utilized to make decisions about students, teachers, and even schools progress and achievements at a particular period of time.

Conclusion

Tests and exams are inevitable in schools or at university. They are used to examine students' knowledge and skills. Students use note taking as a study skill to record what has been explained in lectures and reuse them in their preparation for exams. This chapter contains two main parts. The first part presents the main studies done about note taking, its methods, reviewing notes, its criteria, and the role of the teacher to improve it. The second part reports what has been found about summative assessment, its purposes, its key features, types of tests, and problems with it.

Chapter Two

Research Methods and Discussion of Results

Introduction

The previous chapter summarizes the main findings about both note taking and summative assessment. However, the current chapter focuses on investigating the effect of note taking on M1 students' academic achievement in Sociolinguistics and Psycholinguistics mainly, and the role of the teacher to enhance his/her students' notes. To realize this objective, 3 main research tools are implemented: t-test , a questionnaire, and an interview. This chapter contains 2 main parts: The research methods, and analysis and discussion of results.

II.1. Research methods

In order to test the hypothesis and answer the research questions, a triangulation of research methodology is used in this survey. The current section contains 4 elements: Sampling, instruments, data collection, and data analysis.

II.1.1.Sampling

This study is conducted in the Department of English language at Mohammed Kheider University of Biskra; specifically, with Master 1 students of "Sciences of Languages" branch. The sample have at least 10 years experience with English language; starting from their first year in Middle School till their current level that is Master1. Their knowledge, skills, and competencies in this language are developing gradually year after year.

In their Middle School, they received the basics of the English language such as alphabets, numbers, tenses, pronunciation, very simple vocabulary from their surrounding environment, and writing simple sentences and paragraphs. Then, in Secondary School, they were taught more complicated details. For instance, word stress, reported speech, irregular plural, passive voice, silent letters, and normally, they became able to write longer paragraphs and passages in different topics as well.

After getting their Baccalaureate degree, they became specialized in English language. Those students passed 3 years in their License carrier. They studied different modules such as Linguistics, Grammar, ESP, Oral Expression, Literary Studies, Phonetics, and Methodology. Thus, they became more proficient in English language.

To collect reliable and valid data, the researcher uses three main research tools: a quasi experiment, a questionnaire for students, and an interview for teachers. a purposive sampling is taken abroad for the quasi experiment. As a representative sample of the whole population, she has chosen 10 M1 students who take notes in sociolinguistics and Psycholinguistics courses, and 9 others who do not take notes in these two courses. As it is shown in the table below, the experimental group represents 5.59 % and the control group represents 5.02 % from the whole population. Accordingly, the whole sample represents 10.61 % from all M1 students of " Sciences of Languages" branch.

	Frequency	Percentage
Experimental Group	10	5.59 %
Control Group	9	5.02 %
Whole Sample	19	10.61 %
Whole Population	179	100 %

 Table 2.2 Distribution of the sample

Moreover, a random sampling is used for the questionnaire administration. The researcher has chosen students of group 2 randomly, they are about 37 student. Besides, There is only one teacher in Sociolinguistics and one teacher in Psycholinguistics for Master1. They are both interviewed individually.

II.1.2.Instruments

As mentioned in the general introduction, the aim of the research is to examine the effect of note taking in lectures on students' scores and the role of the teacher to enhance students' notes in terms of their quantity and quality. Therefore, the researcher uses a combination of quantitative and qualitative research design. This mixed research method is useful to get more valid and accurate findings.

II.1.2. 1. T-test

A quasi-experiment is designed. It is conducted on two groups : an experimental group and a control group. The experimental group participants take notes in Sociolinguistics and Psycholinguistics courses. However, the control group do not. Their scores in these two modules are compared to examine the effect of note taking on their academic achievement.

II.1.2. 2. Students' questionnaire

The researcher uses a questionnaire for students in order to examine whether they take notes in these two modules or not, and to get more information about the way they take notes and how they deal with their notes after class. This questionnaire starts with a title to identify the intended sample. The title is followed by a short introduction to give a general idea about the investigation and to activate the respondents' schemata about the topic as well. Below, there is a general instruction to specify how they should go about answering the items.

After the general instruction, the essential part of the questionnaire comes, that is the questionnaire items. It is divided into two main sections. The first section is concerned with the students' background information, and it contains 4 direct questions. The second section is related to note taking, the student would answer it in case s/he takes notes in Sociolinguistics and Psycholinguistics courses. This section includes 15 questions. Those questions are yes/no questions, multiple choice questions, and open-ended questions. Lastly, by the end of the questionnaire, the respondents are thanked for their cooperation and help.

II.1.2.3. Teachers' interview

A semi structured interview with the teacher of Sociolinguistics and the teacher of Psycholinguistics is used to check whether the teacher can recognize the students who take notes from their exam answers or not, and to get insights into the way (s) the teacher may use to help students to get more effective notes.

Each interview includes an introduction and 10 closed ended and open ended questions. These questions are behavior and experience questions. They can be divided into 3 main sections. The first section which contains only two questions about the

interviewees' experience in teaching English at University and mainly the survey's target modules, the second section contains 6 main questions that are related to students' note taking and how to enhance the quantity and quality of their notes. The last section involves 2 questions about constructing the exam questions and the exam papers correction. Finally, both interviews end with thanking the interviewees for their cooperation and they are asked if they have any additions.

II.1.3.Data collection

The present study uses a mixed research method (as it is mentioned in the instruments section); a quasi-experiment, a questionnaire for students, and an interview for teachers. Each instrument used has its own contribution to get more valuable and valid data.

II.1.3.1.T-test data collection

From the first lecture in Sociolinguistics that was on (November 6th,2016), the researcher attended the lecture and by the end, she selected 10 students who already took notes during this lecture and 9 others who relied only on the handout provided and listening to the teacher only without taking notes. She asked them to finish all the semester using the same method, and they affirmed that what they have done in that lecture are already their learning strategies (taking notes or not).

The same students were asked to follow the same procedure in Psycholinguistics lectures as well. However, in this course the teacher does not provide a handout from the beginning of the lecture, but by the end of the semester. Besides, she uses the slides (through using the data show projector) as a visual aid.

By the end of the semester, the students passed their exams. Sociolinguistics exam was on (January 11th, 2017) and Psycholinguistics exam was on (January 5th, 2017). Both examinations occurred in natural conditions. All participants were present, and they were well invigilated by many teachers.

After finishing each exam, the students' answer sheets were given to the administration for the anonymity, then, they were provided to teachers to correct them. In such manner, the correction of the exam papers is fair, so that, the students' scores becomes

more accurate and the internal validity of the research is more reinforced. Subsequently, the researcher took the participants' scores to analyze them.

II.1.3.2.Students' questionnaire data collection

Using questionnaires is a popular method of data collection in conducting researches. Because of its easiness to construct, its capability to gather a large amount of data, and saving time, the researcher uses it as a research instrument to collect supplementary data from students.

II.1.3.2.1. Piloting the questionnaire

Because questionnaires are very sensitive in terms of wording, piloting is an essential part in questionnaires construction. The questionnaire was piloted on 5 students from the intended population to get a feedback about how it works and whether it performs the job it has been designed for.

The pilot questionnaire ends with an opinionnaire which contains 4 main questions about the questionnaire itself. Those questions are used to check if there is any question which is difficult, ambiguous, or repeated, and if the layout is attractive as well. After piloting the questionnaire and checking those 5 students responses, the researcher found out that there was no problem with the questionnaire questions, so she kept the same questions and layout.

II.1.3.2.2. Administration of questionnaire

Since the target sample of the investigation are language learners studying within the same institutional context, a collective administration is used for submitting the questionnaire. The questionnaire is given to all the students of master 1 students of "Sciences of Languages" from group 2 who attended the TD session of Pragmatics on 08th March, 2017 from 09:40 A.M to 11:10 A.M. Students took 10mn to respond the questionnaire questions, and all of them finished the questionnaire and handed them back on time.

The students number was 37 student, there were many absentees. The present students were very cooperative and very interested in the topic of the research. Likewise,

the teacher was quite collaborative and gave the researcher 10mn from his session to distribute the questionnaire.

II.1.3.3. Teachers' interview data collection

The researcher conducts two semi-structured interviews with two different teachers; the teacher of Sociolinguistics and the teacher of Psycholinguistics. The first interview was with the teacher of Sociolinguistics on 26th February, 2017 from 14:00 P.M to 14:20 P.M in the teachers' room. Whereas, the second interview was with the teacher of Psycholinguistics on 12th March, 2017 from 9:00 A.M to 9:15 A.M. Both teacher were very cooperative.

The respondents were given a general idea about the aim of the investigation. The time allocated for each interview was between 15mn to 20mn. For considering the ethical guidelines for conducting research, the respondents were asked if they accept the interview to be recorded or not. One teacher accepted the interview to be recorded and the other refused. Thus, only one interview was audio-recorded. However, in the other interview, the researcher took notes. After finishing the interviews, she transcribed the audio-recorded and rewrote the notes taken.

II.1.4. Data analysis

The current research adopts a deductive based analytical strategies and procedures relying on the findings of the field work. A quantitative data analysis is carried out to analyze the data gathered from the t-test and the questionnaire. After encoding the data gathered by using the SPSS package, inferential statistics are used to link the results with the hypothesis and to check its validity, and descriptive statistics are used for the analysis the questionnaire's results after encoding the data obtained through using the Excel Program. However, a qualitative data analysis is used in the analysis of the interview recordings ; mainly, using the content analysis .

In order to assess the instruments results (t-test, questionnaire, and interview), the researcher verified that all data gathered are clean and she examined all the responses provided . she confirmed that all participants' scores are obtained, and all questions are answered as well.

II.1.4.1. T-test data analysis

For the t-test results, the researcher uses inferential statistics to encode the scores of both the experimental group and the control group. Since the two main categories of descriptive statistics are the measures of central tendency and the measures of variability, the researcher calculates the mean, and the standard deviation for each group. Then, through using the two independent sample statistics, she compares the mean of the experimental group with the mean of the control group in order to discover whether there is statistically significant difference between them. Subsequently, so as to test the alternative hypothesis, the p-value is calculated too.

II.1.4.2. Students' questionnaire data analysis

The questionnaire contains two main types of questions: closed ended questions and open ended questions. They are analyzed differently. On the one hand, Concerning the closed ended questions' results are encoded quantitatively, and they are described through using the Excel processing program. The quantitative data gathered are summarized by calculating the frequencies of responses that fall within each question. In order to visualize these data, the frequencies are displayed in forms of tables, pie charts, and bar charts. On the other hand, the open ended questions are used for clarification ,so they are analyzed qualitatively through using content analysis. Besides, in order to avoid the researcher's subjectivity and to reduce the pool of responses diversity, the researcher follows two phases. She highlights the key points for each response. Then, based on the points highlighted, she creates broader distinct categories for the responses, so that, they can be compared and treated as nominal data.

II.1.4.3. Teachers' interview data analysis

Two interviews with two teachers are conducted in this survey. The first interview is conducted with the teacher of Sociolinguistics, it takes the name of " Interview A". Whereas, the second interview is implemented with the teacher of Psycholinguistics which is named " Interview B". The analysis of both interviews' results is merely qualitative. The researcher follows certain steps to get meaning from the data gathered. She starts the analysis through familiarizing with data; listening to the tape and reading the notes. Then, she transcribes the audio recorded data of interview B to written transcripts, and she verifies if there is any problem in the written report of interview A. After that, in order to

make the results clearer and to be interpreted easier, the researcher organizes the data in a table that contains: the topics, the responses of interview A and B, and the researcher's notes about them. Subsequently, the data gathered are encoded and indexed through highlighting and underlining to build more exclusive categories for the various themes discussed. Once the researcher identifies the different categories, she tries to find possible relationships between them, and she provides reasonable explanations for the findings.

II.2. Results and discussion

The most important and challenging part in thesis writing is presenting the research findings and discussing them. The current section includes commenting, interpreting, and discussing the results obtained in separate subsections: t-test results, questionnaires' results, interviews' results, and the discussion of all those results.

II.2.1.T-test results analysis

After getting the experimental group results and the control group results in Sociolinguistics and Psycholinguistics, the researcher analyses quantitatively those results through using the SPSS package. The results gathered through the t-test help the researcher to test the hypothesis stated from the beginning of the survey.

II.2.1.1.T-test results analysis in Sociolinguistics

The researcher starts by analyzing the participants' scores in Sociolinguistics. This section represents the scores of the experimental group and the control group, and their frequencies. Besides, it discusses those scores through implementing the independent samples of experimental and control group.

Scores	Frequencies
12	2
12.5	1
13	3
13.5	1
14	2
15	1
Total	10

II.2.1.1.1. Experimental group achievement

Table 2.3. Experimental group scores in Sociolinguistics

The results included in the table above show the participants' scores of the experimental group in Sociolinguistics module. The scoring scale used by teachers is from 0 to 20. This table contains two columns. The first column represents the scores obtained by the participants, whereas the second column shows the number of students who obtained the same score. As it is shown above the lowest mark is 12, and the highest mark is 15.

II.2.1.1.2. Control group achievement

Scores	Frequencies
7	2
8.5	1
9	1
10	1
11.5	1
13	3
Total	9

 Table 2.4. Control group scores in Sociolinguistics

Table 2.3 results show the control group participants' scores in Sociolinguistics. It represents both the participants' scores and the frequencies of the students who got the same mark. The highest score obtained by those students is 13, and the lowest score obtained is 7.

II.2.1.1.3. Two independent samples of control and experimental groups in Sociolinguistics

In order to test the hypothesis, the researcher implements two independent samples of control and experimental groups through using the SPSS package. She calculates the mean, standard deviation and the p value of both the experimental group scores and the control group scores, and the mean difference between them as well.

II.2.1.1.3.1. Groups statistics in Sociolinguistics

Groups		Ν	Mean	Std. Deviation	Std. Error Mean
Sociolinguistics	Experimental	10	13.2000	0.94868	0.30000
	group				
	Control group	9	10.2222	2.50139	0.83380

 Table 2.5. Group statistics of experimental and control groups in Sociolinguistics

The table above displays the number of participants, mean, standard deviation, and standard error mean for each group. It indicates that the mean of the experimental group results (M=13.2000) is higher than the mean of the control group results (M=10.2222). However, the standard deviation of the latter (SD= 2.50139) is higher than the standard deviation of the experimental group results (SD= 0.94868). Furthermore, the standard error of the mean of the control group results (SEM= 0.30000) is lower than the standard error of the mean of the control group results (SEM= 0.83380). This final result is expected since the number of the participants in the control group is lower than the number of participants in the experimental group. That is to say, the standard error of the mean decreases as the number of participants increases.

II.2.1.1.3.2. Independent samples test for equality of variances in Sociolinguistics

		Levene's	Test for	t-test for Equality of Means			
		Equality o	Equality of Variances				
		F	Sig.	t	df	Sig.(2-	
						taile)	
Sociolinguistics	Equal Variances assumed	13.496	0.002	3.504	17	0.003	
	Equal Variances not assumed			3.360	10.056	0.007	

Table 2.6. Independent samples test in Sociolinguistics (Part 1)

The above table summarizes the main results of the first part of the independent samples t-test for equality of variances. It contains two main sections. The first section indicates the Levene's test for equality of variances results. This test determines if the two groups have about the same or different amounts of variability between scores. The Sig. value in this test is (p=0.002), and it is less than (0.05) which means that the variability between the scores of the two groups (experimental and control group) is significantly different. The second section of this table is the t-test for equality of means. This t-test results include the t value, degree of freedom, and the 2-tailed p value. As it is shown above, F value of (F= 13.496) and Sig(p=0.002) is lower than 0.05. In such case, the researcher reads the bottom row only. The last result demonstrates a statistically significant difference between the experimental group and control group with a p value of (p=0.007).

		t-test for Equality of Means					
		Mean	Std. Error	95% Confidence Interval of the Difference			
		Difference	Difference	Lower	Upper		
Sociolinguistics	Equal Variances assumed	2.97778	0.84982	1.18482	4.77074		
	Equal Variances not assumed	2.97778	0.88612	1.00485	4.95071		

Table 2.7. Independent samples test in Sociolinguistics (Part 2)

The above table represents the second part of the independent samples t-test for equality of variances. Following the same manner used in the analysis of the first part of the table, since Sig. is (p= 0.002), the researcher reads the second row in the table (Equal Variances not assumed). It shows that the mean difference between the experimental group mean and the control group mean is (2.97778), and the standard error difference is (0.88612). Besides, with 95% confidence interval of the difference , a lower value of (1.00485) and an upper value of (4.95071) for equal variances not assumed.

II.2.1.2. T-test results analysis in Psycholinguistics

After analyzing the participants' scores in Sociolinguistics, the researcher analyzes their scores in Psycholinguistics. This section states both the experimental and control group achievement in Psycholinguistics exam, as well as the analysis of their scores through implementing the two independent samples of experimental and control group.

Scores	Frequencies
8	1
11	1
11.25	1
12.25	1
13.5	2
16	1
17.25	1
17.50	2
Total	10

II.2.1.2.1. Experimental group achievement

Table2.8.Experimental group scores in Psycholinguistics

The above table displays the experimental group scores in Psycholinguistics. Scores that are not mentioned in this table are not obtained by this group participants. As it is shown above, The highest mark is (17.5) and the lowest mark is (8).

II.2.1.2.2.	Control	group achievement
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Scores	Frequencies
2	1
5	1
5.5	1
6.5	1
7	1
10.25	1
11.5	1
12.75	1
Total	9

Table 2.9. Control group scores in Psycholinguistics

Table 2.10 displays the control group scores in Psycholinguistics. It shows that all participants got different marks, and no student in this group obtained as the other participants. The highest mark got in this group is (12.75), whereas the lowest mark obtained is (2).

II.2.1.2.3. Two independent samples of control and experimental groups in Psycholinguistics

The same procedures used with Sociolinguistics scores are followed in the Psycholinguistics scores treatment. The researcher implements the two independent samples of control and experimental groups. More specifically, she calculates the mean, standard deviation, and the p value for each group, and the mean difference between them as well.

II.2.1.2.3.1. Groups statistics in Psycholinguistics

Groups	Ν	Mean	Std. Deviation	Std. Error Mean
Psycholinguistics Experimental	10	13.7750	3.24348	1.02568
group				
Control group	9	7.6667	3.42098	1.14033

 Table.2.10.Group statistics of experimental and control groups in Psycholinguistics

The above table represents that the mean of the experimental group (M= 13.7750) is higher than the control group mean (M=7.6667). Concerning the degree to which participants' scores differ from the sample mean, the standard deviation of the experimental group (SD= 3.24348) is lower than the standard deviation of the control group (SD= 3.42098). Further, the standard error mean of the control group (1.14033) is higher than the standard error mean of the experimental group (1.02568).

II.2.1.2.3.2. Independent samples test for equality of variances in Psycholinguistics

		Levene's Test for		t-test for Equality of Means		
		Equality o	of Variances			
		F	Sig.	t	df	Sig.(2-
						taile)
Sociolinguistics	Equal Variances assumed	0.019	0.892	3.994	17	0.001
	Equal Variances not assumed			3.983	16.551	0.001

 Table 2.11. Independent samples test in Psycholinguistics (Part 1)

As indicated in the table above, the first section in the table summarizes the Levene's test for equality of variances results. It shows that the significance level of the scores obtained by the two groups is (p= 0.892). This sig value is higher than 0.05, that is to say the variances of the two groups are statistically equal. This result suggests to read the first row of the t-test for equality of means results that is the equal variances assumed part. With t value (t=3.994) and a degree of freedom (df= 17), a Sig (2 tailed) value (p= 0.001) that is lower than 0.05.

		t-test for Equality of Means					
				95% Confidence Interval of			
		Mean	Std. Error	the Difference	2		
		Difference	Difference	Lower	Upper		
Sociolinguistics	Equal Variances assumed	6.10833	1.52920	2.88201	9.33466		
	Equal Variances not assumed	6.10833	1.53374	2.86573	9.35094		

Table 2.12. Independent sample	s test in Psycholinguistics (Part 2)
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Since Sig. (p=0.892) is higher than 0.05, the same procedure used in the first part of the table (Table 2.12), As it is shown in the table above, the equal variances not assumed mean difference between the experimental group mean and the control group mean is

(M= 6.10833), and the standard error difference is (1.53374). Besides, with 95% confidence interval of the difference a lower value of (2.86573) and upper value of (9.35094) for equal variances not assumed.

II.2.2. Results of students' questionnaire

In order to get more details about the way students take notes, the way they solve any problem that may be faced during note taking, and how they review their notes after class, mainly in Sociolinguistics and Psycholinguistics courses, the researcher conducts a semi structured questionnaire for them.

II.2.2.1. Results of piloting the questionnaire

Before the questionnaire administration, the researcher pilots it to 5 students from the same population to check the instrument's validity and to avoid any possible problem(s) as well. This questionnaire contains two main parts. The first part is the intended questionnaire, and the second part is an opinionnaire about the questionnaire itself. In accordance with the students' responses of the pilot questionnaire, she did not find any missing information and all questions were answered by respondents.

II.2.2.1.1. Results of the pilot questionnaire's opinionnaire

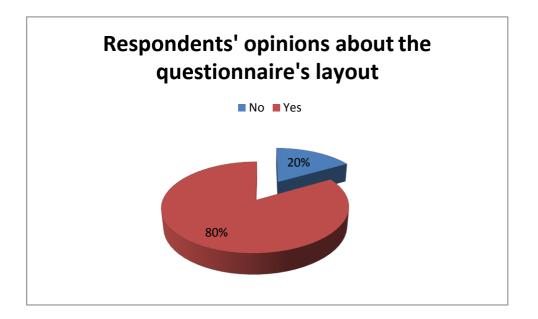
By the end of the pilot questionnaire, the students are asked to answer a short opinionnaire about it. The latter contains 4 questions about the questionnaire's questions and layout.

II.2.2.1.1.1. The difficulty of the questionnaire's questions

Students' Agreement	Frequencies	Percentage
Yes	0	0%
No	5	100%

Table 2.13. Respondents' opinions about the difficulty of the questionnaire's questions

The first question in this opinionnaire aims to test the difficulty of the questions. All respondents (N=5) agree that the questions were not difficult to be answered.



II.2.2.1.1.2.The attractiveness of the questionnaire's layout

Figure 2.4. Respondents' opinions about the questionnaire's layout

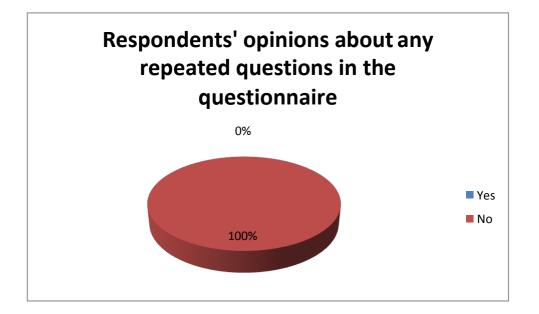
The students are asked if the layout of the questionnaire is attractive or not. 80% of the answers was "yes", while only one student (20%) responds with "No".

II.2.2.1.1.3. The ambiguity of the questionnaire's questions

Students' Agreement	Frequencies	Percentage
Yes	0	0%
No	5	100%

 Table 2.14. Respondents' opinions about the ambiguity of the questionnaire's questions

The above table shows that all participants (N=5) find the questionnaire's questions clear and understandable.



II.2.2.1.1.4. Repeated questions in the questionnaire

Figure 2.5. Respondents' opinions about any repeated questions in the questionnaire

As it can be seen in Figure 2.5, Participants are asked to give their opinions if any repeated question (s) exists in the questionnaire. They all (N=5) agree that all questions were not repeated.

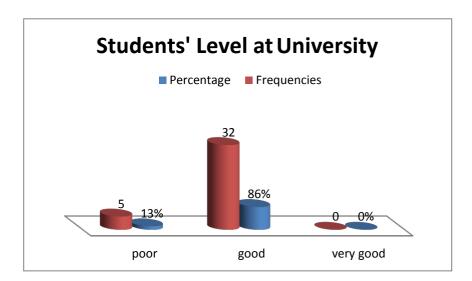
Based on the feedback received from the opinionnaire, the researcher decides to keep the same questions and layout of the pilot questionnaire as a final version to be used in this survey.

II.2.2.2. Results of questionnaire

After receiving back the students' responses of the pilot questionnaire, the researcher does not find any missing information and all questions are answered by all participants. Therefore, this pilot questionnaire was kept as a definitive version. The questionnaire contains two main sections. The first section is concerned with background information, while the second section is devoted to note taking.

II.2.2.2.1. Background information

In this section, students are asked 4 questions about their level at university, their scores in Sociolinguistics and Psycholinguistics, and whether they take notes in these two modules or not.

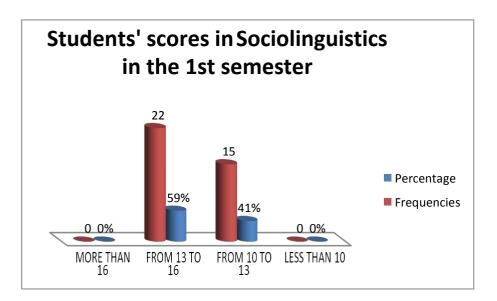


II.2.2.2.1.1. Students' level at University

Figure 2.6. Students' level at University

The first question in this questionnaire aims to indicate the students' academic level at university. Figure 2.6 shows that 86% of the participants have a good level, some of them (13%) have a poor level, and no one (0%) have a very good level.

Since the main aim of this survey is examine the effect of note taking on M1 students scores in Sociolinguistics and Psycholinguistics, the students were asked about their scores in these two modules .



II.2.2.2.1.2.Students' scores in Sociolinguistics in the 1st semester

Figure 2.7. Students' scores in Sociolinguistics in the 1st semester

The above figure (Figure 2.7) shows that students' marks are, mainly, from 10 to 16. More specifically, 41% (N=15) of the participants' scores are between 10 to 13, 59% (N=22) of them obtained from 13 to 16. However, there is no participant got neither less than 10 nor more than 16.

II.2.2.2.1.3. Students' scores in Psycholinguistics in the 1st semester

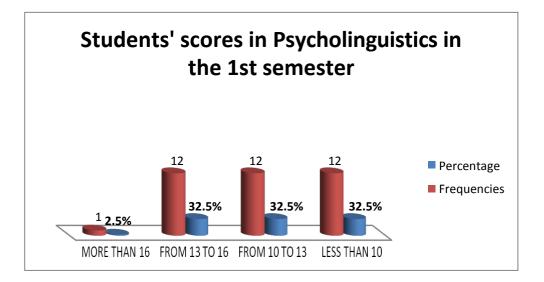
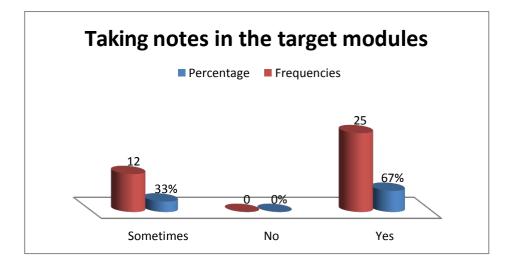
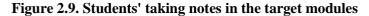


Figure 2.8. Students' scores in Psycholinguistics in the 1st semester

As it is shown in Figure 2.8, the same number of participants is repeated in 3 categories. Students who obtained less than 10 (N=12), who obtained from 10 to 13 (N=12), and who obtained from 13 to 16 (N=12). Whereas, only 1 student obtained more than 16.



II.2.2.2.1.4. Students' taking notes in the target modules



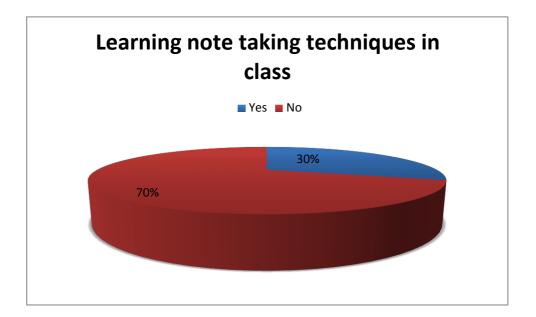
After getting the students' scores in Sociolinguistics an Psycholinguistics modules, the researcher asks them whether they take notes or not or sometimes. The results gained are reported in the above figure (figure 2.9). 67% of the respondents usually take notes in these two modules lectures, 33% of them sometimes take notes, however no one does not take notes

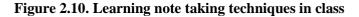
. II.2.2.2.2. Note taking

Students take notes differently. They may share some techniques and they may differ in some, either in the actual action of taking the notes, in reviewing them, or even in using them. In order to discover these similarities and differences, the researcher asks the participants several questions. Their answers are reported in this section.

II.2.2.2.2.1. Learning note taking techniques in class

This question contains 2 parts; a close ended question and an open ended question. The second part is concerned with students who responds with "yes" only.





The closed ended question is used to check whether the respondents were taught how to take notes effectively or not. Figure 2.10 clearly shows that the most of participants did not learn note taking techniques in class. 70% of the responses were "No", while only 30% of them were "yes". Those students who were taught how to take notes are asked to answer the second part of the question. They were asked about the level in which they learned it and the way that was used by the teacher to teach them those techniques as well. All the latter students (N=11) answer this question.

After highlighting the main points in their answers, the researcher groups them in the following categories:

Level	Frequencies	Percentage
Secondary School	3	27%
1st Year License at	6	55%
University		
2 nd Year License at	2	18%
University		
Total	11	100%

 Table 2.15. Students' level when they learned how to take notes in class

The table above shows that 3 students (27%) were taught how to take notes in their Secondary school. Furthermore, 6 students (55%) declared that they learned note taking

some techniques in their 1^{st} year at University. Whereas, 2 students (18%) learned those techniques in their 2^{nd} year at University. This diversity in answers occurs because students were not taught by the same teachers, some of the them were belong to different promotions, some others were belong to the Classic system, or even other universities.

Concerning the way used by teachers to teach them how to get effective notes, all students agree that their teachers asked them to take important ideas, definitions, and key terms only. It is clear from their responses that those students were taught how to take notes theoretically without guided practice in the classroom.

II.2.2.2.2.Students taking notes in case a handout is provided

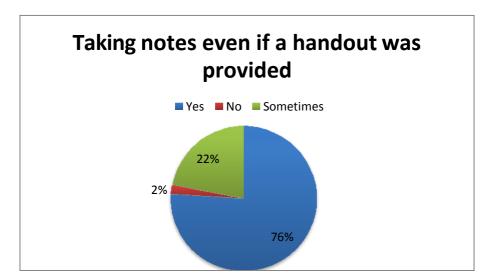
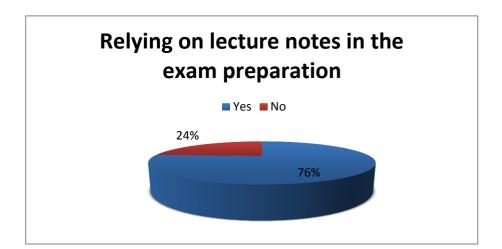
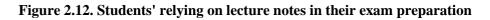


Figure 2.11. Students' taking notes in case a handout is provided

The objective of using this question is to verify whether students usually take notes, sometimes, or they do not take notes completely, in case the teacher provides a handout. As the above figure shows, most of students (76% of them) take notes even if they have the teacher's handout of the lecture, 22% of them sometimes take notes, while the last 2% of them do not take notes and they rely on the provided handout.



II.2.2.2.3. Relying on lecture notes in the exam preparation



This question aims to investigate the students' use of their notes in their exam preparation. The majority of students (76%) completely rely on their lecture notes in the exam preparation. That is to say, their revision is completely dependent to those notes. However, 24% of them do not entirely rely on their taken notes. The latter use other supports such as handouts or lectures slides.

II.2.2.2.2.4. Completing and comparing notes with classmates

Students' Agreement	Frequencies	Percentage	
Yes	6	16%	
No	15	41%	
Sometimes	16	43%	

 Table 2.16. Students' completing and comparing their notes with classmates

The purpose behind this question is to investigate students' cooperation to complete their notes. The above table shows that only 16% of respondents usually compare and complete their notes by the help of their classmates. 41% of them do not compare and complete their notes with their classmates. Besides, 43% of the participants sometimes make such comparisons and asking for their classmates help.

II.2.2.2.5. Sitting closer to the lecturer

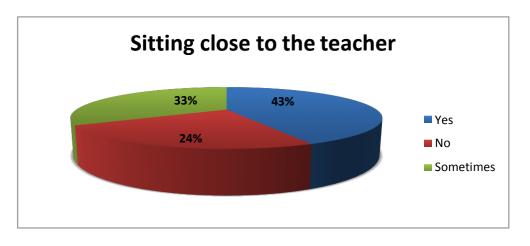


Figure 2.13. Students' sitting closer to the lecturer

This question aims to examine students' preferences to sit closer to the lecturer. Figure 2.13 shows that 43% of the respondents try to be as much as possible to the teacher in the classroom. 33% of them sometimes attempt to sit closer to him/her. Surprisingly, 24% of them prefer to sit distant from the teacher even if they take notes.

II.2.2.2.2.6. The tool used in note taking

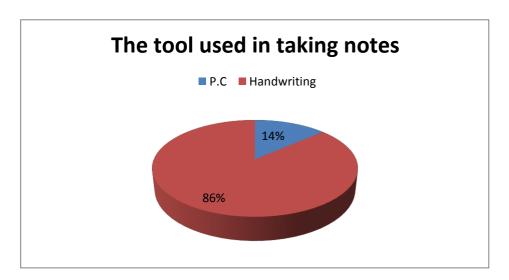
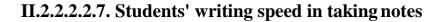


Figure 2.14. The tool used in taking notes

The premise behind this question is to explore the tools used by students in taking their notes in lectures. The majority of students (86%) write their notes by hand. Whereas, 14% of them use their personal computers in taking their notes.



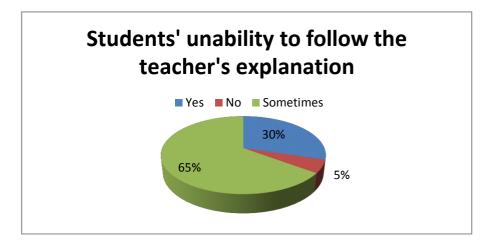
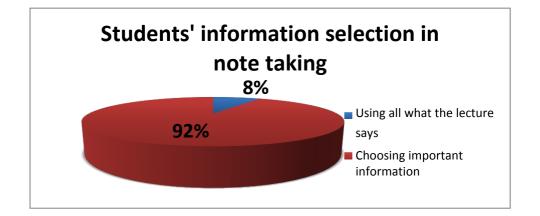
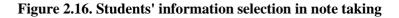


Figure 2.15. Students' inability to follow the teacher's explanation

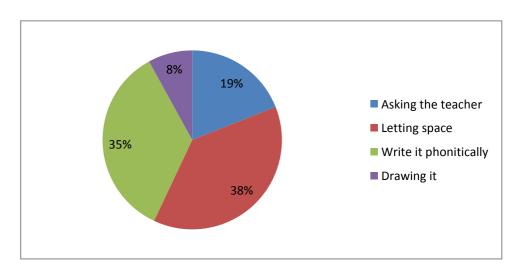
This question seeks to check whether the students' speed of writing their notes is in balance with the lecture's speed of explanation. The above figure indicates that the majority of students (65%) sometimes cannot follow their teachers' speed of explanation. Whereas, (5%) of them are not able to follow their teachers' speech, and they usually miss some information from the lecture. Besides, (30%) of them are able to the lecture's explanation all the time.

II.2.2.2.2.8. Students' information selection in note taking





This question aims at testing students' ability to select key points from the lecture. Figure 2.16 shows that the majority of them (92%) take important information only. However, 8% of them write all what the lecturer says. The latter are not able to differentiate between what is important and what is not important, so they write the teacher explanation from the beginning to the end.



II.2.2.2.2.9. The way (s) of facing difficulties with new words

Figure 2.17. The way (s) of facing difficulties with new words

The purpose behind this question is to investigate the strategies used by students to solve any problem that they may face with new words. The above figure shows that 19% of the respondents ask the teacher about the word that they do not realize its meaning, and 38% of them let space and move to another point. Besides, 35% of those students write difficult words phonetically. However, only 8% of them draw it, if they know its meaning and they do not know how to write it.

II.2.2.2.2. 10. Students' rewriting notes

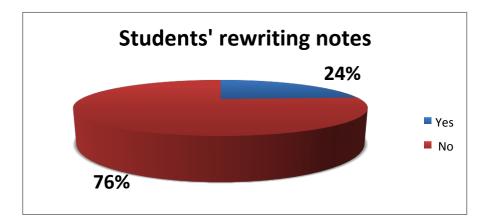


Figure 2.18. Students' rewriting notes

This question's aim is investigating whether students rewrite their notes after class or not. The majority of the participants keep their notes taken in the lecture as they are and do not rewrite them. Whereas, only 24% of them rewrite their notes and reorganize them.

Respondents who answer with "yes" are asked another question. This question looks for the time when they rewrite their notes and review them. The below figure summarizes their responses.

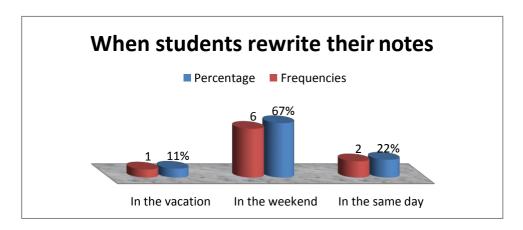
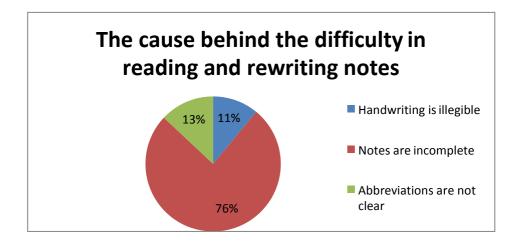
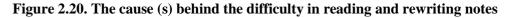


Figure 2.19. When students rewrite their notes

This figure shows that the majority of responses (N=6) with a percentage of 67% is "in the weekend". However, only 2 students (22%) rewrite their notes in the same day because the information are still fresh in their minds and they can retrieve them easily, and only one student (11%) rewrites his/her notes in the vacation.

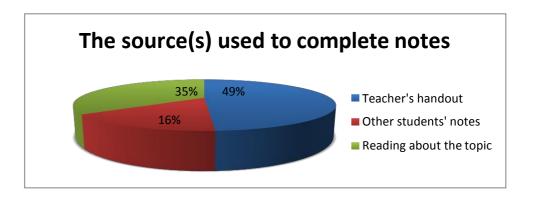
II.2.2.2.2.11. The cause (s) behind the difficulty in reading and rewriting notes

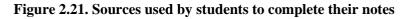




This question attempts to diagnose the causes behind the difficulty that may face students when they review their notes. The above figure indicates that the majority of students (76%) find their notes are incomplete. 13% of them do not understand and they forget abbreviations they use. However, 11% of those students find their handwriting unclear and illegible, because they write very quickly to follow the teacher's explanation.

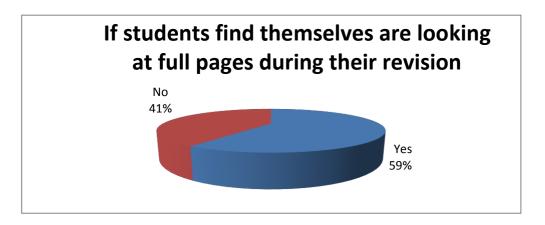
II.2.2.2.12. The source (s) used to complete their notes

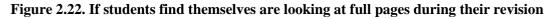




This Question focuses on the sources used by students to complete their notes. Figure 2.21 shows that 49% of respondents use the handout provided by their teacher to enhance their notes. 35% of them read more about the topic, so that they become able to complete their missing notes. Whereas, the rest of them (16%) prefer to use their classmates' notes to complete those notes.

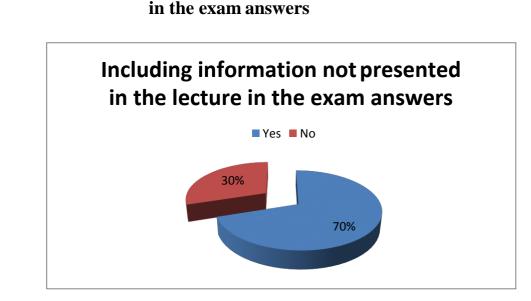
II.2.2.2.2. 13. If students find themselves are looking at full pages during their revision

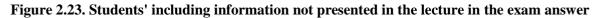




This question tries to check if students write too much or they summarize what they write and organize it. The above figure shows that the majority of students (59%) find themselves are looking at full pages during their revision. Whereas, 41% of them find their notes organized and they do not include redundant information.

II.2.2.2.2.14. Students' including information not presented in the lecture





This question aims to investigate if students completely rely on their notes in their exam answers. Figure 2.23 indicates that the majority of students (70%) include information from their further readings. However, only 30% of them limit their answers to what they have studied in the lectures.

II.2.2.2.15. Students' opinions about the importance of note taking

The aim of this open ended question is to identify students' opinions about the importance of note taking. The results obtained are summarized in the following table.

Students' Opinions	Frequencies	Percentage
1-It helps to understand the lecture better.	17	39%
2-It helps to memorize the lecture.	12	27%
3- The teacher may do not include some information in	5	12%
the handout.		
4-It summarizes the lecture.	8	18%
5- It helps to concentrate more in the lecture and it	1	2%
increases discussions during the lecture.		
6- It helps to revise for exams and tests.	1	2%
Total Number of Responses.	44	100%

Table 2.17. Students' opinions about the importance of note taking

The above table summarizes the students' opinions about the importance of note taking. It shows that some students gave more than one reason for taking notes. 39% claim that note taking helps to understand the lecture better, and 27% of them see it as a strategy used to memorize lessons. Besides, 12% of them say that teachers may explain some details not included in the handout. 18% of the respondents take notes because the latter summarizes the lecture content. Furthermore, 2% of them believe that note taking helps students to concentrate more in the lecture and it motivates them to discuss with their teacher and classmates. The last 2% of them take notes because it helps them in their revisions for exams and tests.

II.2.3. Results of teachers' interview

After interviewing teachers, checking the notes taken in the first interview, and transcribing the second interview's audio record, data gathered are organized in the form of a table. This way of organization allows the researcher to go through each topic and theme easily. Besides, it makes data obtained easier to be analyzed and discussed.

Topics	Interview A	Interview B	Notes
1-The interviewees experience	I have been teaching EFL for 40	It is more than 12 years.	The first question is about
in teaching at University	years. At University, it is about 20		teachers' experience at
	years.		University. Both teachers have
			gained a valuable professional
			experience in teaching English
			language at University (more
			than 10 years).
2-The Way (s) used by teachers	Note taking is a learning strategy	Encouraging them ! I'll tell you	The second question aims to
to encourage students to take	used by learners to put down	I teach Psycholinguistics depends	indicate the interviewees'
notes in the lecture	teacher's explanation that occurs	on slides. Yeah! And then, I	opinions about the way(s) can
	orally. Hence, the teacher has to	premise on additional information	be used by teachers to
	encourage learners take notes to	which is not in those slides. So,	encourage students to take
	keep the stream of the lecture up	automatically those students who	notes. Both of them agree that
	and dynamic. Various teachers	are interested ,and they are hard	adding tasks and homeworks is
	intervention to incite learners take	workers generally, always take	an effective way to stimulate
	notes in forms of homeworks,	notes in addition to all those I	students to take notes in
	assessments etc.	premise on adding tasks, those	lectures. However, one of these
		tasks always encourage them to	interviewees (teacher B) adds

		look for more information.	that she uses slides in her explanation, and adding new information not included in those slides can motivate
			students to take notes as well.
3-Teachers indirect	Yes sure especially the voice and	Very important. You said non	The interviewees are asked
encouragement of students (non	tone of speech.	verbal. For example, when you	about others ways to encourage
verbal signs)		make gestures about certain	students to take notes, indirect
		information and certain additions.	ways mainly. Teacher A focuses
			on the teacher's voice and tone
			during his/her explanation.
			Whereas, the teacher B
			concentrates on the teacher's
			gestures especially during
			presenting certain details or
			certain additions.
5-Giving students a feedback	Yes, through discussion.	Giving feedback! <u>It depends</u> . I	The fifth question is used to

about their notes	Discussion is considered a good way to feedback indirectly.	generally <u>ask students to add</u> <u>information or to provide their</u> <u>opinions</u> if I see that a certain information given by certain student is <u>not appropriate</u> . I always <u>avoid giving direct influence</u> . For example, can you provide an addition? What do you think of these? Do you agree or disagree with what your classmate is saying? Do you agree?, even I ask them about their opinions about the	students feedback about their notes. Both teachers agree to avoid giving direct remarks about the students' notes. Teacher A asserts on discussing the notes with students. Further, teacher B adds that she usually ask her students to provide additions and their opinions as
Discussion in the classroom Providing students with the teacher's version of notes	<u>Didactic support is vital in</u> <u>lecturing specially a handout</u> <u>summary which is progressively</u> interacted with students.	 different authors' suggestions. Yes! It riches the course. Summary! <u>Yes I give them</u>. But generally <u>I prefer to ask students to summarize</u> leading them through questions. 	These teachers are asked whether they provide their students' with their version of notes. Both of them agree about the importance of providing

			students with summaries and
			handouts. Besides, the teacher B
			adds that she prefers asking
			students to summarize the
			lecture content by themselves.
6- Strategies used by teachers to	Generally, <u>I repeat this part more</u>	I always start by asking many	This question seeks to
show an important part in the	than one time, Because repetition	<u>questions</u> to students before	investigate the strategies used
lecture	is really important in this case.	providing with what I have	by the interviewees to show the
		selected for them and then I ask	importance of certain part in the
		them to add extra information	lecture. Teacher A emphasizes
		because I always tell them about	on the repetition of this part.
		the next lecture will be about this,	However, the teacher B believes
		you may search through the net	that the classroom discussion
		about information on this topic. So,	and starting this part of the
		generally, good students get ready.	lecture with questions is and
		Some of them brought really good	effective way to show its
		information and rich the class	importance.
		discussion.	

Asking students questions		Yes surely, I ask more questions,	
		and sometimes those students	
		intervene by asking other questions	
		and that creates collaboration.	
		Generally, discussion and of	
		course providing more information	
		than that is provided by me.	
7-Strategies used by teachers to	It is up to what you are teaching	I solve this problem by asking the	The interviewees are asked
explain new vocabulary	and the level of your learners.	students.	about the strategies used by
		If they do not know it, I generally	teachers to explain any new
		prepare notes explaining its	vocabulary to students. Teacher
		meaning. By the end. Sometimes at	A declares that the choice of
		the end of the course, sometimes	these strategies are based on the
		within the lecture which means in	nature of the subject and the
		the next slide, before showing	students' level. Besides, teacher
		them the slide.	B provides more specific
			strategies that she uses in her
			classroom. She starts by asking
			the students about the meaning
			of this vocabulary and if she is

			sure that they do not know it,
			she prepares its meaning in
			advance.
8-If teachers base their	Sociolinguistics is an academic	Note taking helps the students who	The purpose behind this
questions on their explanation	subject. Many terminologies and	always attending the course to get	question is to examine if
in lectures only (If the exam	definitions are required. Note	better scores and I also use	teachers base exam questions on
questions can be answered from	taking on the basis of the teacher's	information prepared by some	their explanations in lectures
the students' notes)	explanation and handout pave the	students, volunteers I mean, who	and the notes taken by students.
	way to better understanding. At	did those tasks, some tasks were	Teacher A sees Sociolinguistics
	university level a lot of output is	obligatory, others were free. The	as an academic subject, so it
	expected. I mean the written	questions also are based on that.	needs more written productions
	production such as: summarizing,	For those who are working and	in terms of analysis ,
	analysis, comments, and even	attending the course.	commenting, and criticizing
	criticizing.		more than just memorization.
			However, teacher B asserted on
			the importance of note taking to
			get better scores because she
			includes even information
			prepared by students in the
			exam questions.

9- If there are any signs that	There is no difference between	Ah! Surely! It appears in their	This question aims to
show the difference between the	learners who take notes and those	answers. It is easy to identify them,	investigate if teachers can
students who take notes and	who do not. Learning is a matter of	because those students who do not	differentiate between students
who do not (During correcting	comprehension and intelligence.	attend the course, they base their	who take notes in lectures and
exam papers)		revision on the slides. Generally,	those who do not from their
		they are not able to develop a	answers in exams. Teacher A
		complete paragraph. I did not give	sees no difference in the
		them an essay, normally, I should	students answers. Whereas,
		have given them an essay but	teacher B can differentiate
		because of the number of the	between those students easily.
		students, I gave them some	She adds that those students
		questions and 2 paragraphs to	who do not take notes base their
		provide, to develop certain models,	revision on what is included in
		writing paragraphs about models.	the slides only, as a result they
		So, the difference is very big. Very	cannot answer well in the exam.
		easy to identify the difference.	
10-Teachers additions	<u>No</u> , thanks.	To add I tell you that teaching	Interviewees are asked if they
		Psycholinguistics was a pleasure	have any additions. Teacher B
		for me, and teaching those master	expresses her pleasure to teach
		students. I really! My intention is	Psycholinguistics for M1
		providing or preparing the syllabus	students. Besides, she intends to

because we have no syllabus in prepare a syllabus for the	nis
order to help those students get module to prepare students f	or
ready in different exams and future situations.	
different contexts in different	
universities and or university in	
future.	

Table 2.18. Results of teachers' interviews

The above table represents the two interviews' results that are conducted with the two teachers. It contains 4 rows. The first row summarizes the main topics discussed with them. The second row is concerned with the interview report with the first teacher, whereas the third row shows the second teacher's answers. Besides, the last row in the table indicates the researcher's notes and interpretations of both interviews' results.

II.2.4. Discussion of results

The present study is conducted to test one hypothesis, and to answer one main question and two others subquestions. Its main aim is to investigate the effect of note taking on students' academic achievement, exclusively, its influence on their understanding and their memory. To achieve this aim and to get more valid results, the researcher uses three instruments: t-test, a questionnaire for students, and an interview for teachers.

II.2.4.1. T-test discussion of results

H1: Note taking may be useful for M1 students' scores in Sociolinguistics and Psycholinguistics modules.

H0: Note taking may not be useful for M1 students' scores in Sociolinguistics and Psycholinguistics modules.

		Experimental group (N=10)	Control group (N=9)	
Mean		13.2000	10.2222	
Std. deviation		0.94868	2.50139	
Minimum		12	7	
Maximum		15	13	
S.g (2 tailed) 0.00			007	
Mean Differen	ce	2.97778		
95%CI of the Lower		1.00485		
difference	Upper	4.95	5071	

Table 2.21. Overview of two independent samples t-test results in Sociolinguistics

To test the above hypotheses, the researcher conducted a t-test in Sociolinguistics module and Psycholinguistics module as well. The former's results show that there is a difference between the mean of the experimental group (M=13.2000) and the mean of the control group (M=10.2222).

H0: $\mu_1 - \mu_2 = 0$ (the difference between the two population means is equal to 0). H1: $\mu_1 - \mu_2 \neq 0$ (the difference between the two population means is not equal to 0).

The mean difference between the two means (MD= 2.97778) indicates that there is a difference between the scores of both groups results. It shows that note taking influences positively the students' academic achievement. Moreover, the *p*. value (*P*= 0.007) obtained by

the independent samples statistics is higher than ($\alpha = 0.05$). This *p*. value (*P*= 0.007) proves that there is a statistically difference between the students' scores of those who take notes and those who do not take notes. Besides, with 95% confidence interval of 1.00485 to 4.95071, the interval estimate of the magnitude and direction of the experimental intervention's effect compared with the control intervention is between 1.00485 and 4.95071.

		Experimental group (N=10)	Control group (N=9)		
Mean		13.7750	7.6667		
Std. deviation		1.02568	1.14033		
Minimum		8	2		
Maximum	17.5 12.75		12.75		
S.g (2 tailed)		0.	0.001		
Mean Differen	ce	6.10833			
95%CI of the	Lower	er 2.88201			
difference	Upper	9.3	3466		

Table 2.22. Overview of two independent samples t-test results in Psycholinguistics

The results obtained in Psycholinguistics indicate that the mean of the experimental group (M = 13.7750) is higher than the mean of the control group (M = 7.6667).

H0: $\mu_1 - \mu_2 = 0$ (the difference between the two population means is equal to 0). H1: $\mu_1 - \mu_2 \neq 0$ (the difference between the two population means is not equal to 0).

The mean difference between the experimental group and the control group is (MD= 6.10833), and it is higher than 0. Furthermore, the *p*. value (p= 0.001) got by using two independent statistics is higher than (α =0.05). The latter proves that the experimental group results are highly statistically significant regarding to the control group results. Moreover, with 95% confidence interval of 2.88201 to 9.33466, the effect of experimental intervention lies in the interval estimate between 2.88201 to 9.33466.

The results obtained in Sociolinguistics module ($\mu_1 - \mu_2 = 2.97778 \neq 0$ and $p = 0.007 < \alpha = 0.05$), and the results obtained in Psycholinguistics module ($\mu_1 - \mu_2 = 6.10833 \neq 0$ and $p = 0.001 < \alpha = 0.05$) lead the researcher to accept the alternative hypothesis (H1= Note taking may be useful for M1 students' scores in Sociolinguistics and Psycholinguistics modules), and reject the null hypothesis (H0: Note taking may not be useful for M1 students' scores in Sociolinguistics modules). Besides, in this case, she is able to answer the subquestion that is (Does note taking enhance M1 students' academic achievement in Sociolinguistics and Psycholinguistics modules?). She can say

"Yes, note taking enhances M1 students' academic achievement in Sociolinguistics and Psycholinguistics modules."

Furthermore, even both exams (Sociolinguistics exam and Psycholinguistics exam) have nearly the same structure, Sociolinguistics exam questions are based merely on understanding the content of lectures presented in class, while Psycholinguistics exam questions focused on memorizing lectures. Therefore, the researcher can conclude that note taking influences positively both students' understanding and memory. In such case, the researcher answers the main research question that is "To what extent is note taking useful for M1 students in Biskra university in Sociolinguistics and Psycholinguistics modules?" Moreover, despite the fact that several studies (For example, McPherson,2007; Ritchie & Thomas, 2014; Podder, 2004; and Boch & Piolat, 2005) asserted on the importance of note taking in terms of its process, this survey's findings reinforces the claim of Gore (2010) that note taking has both process and product functions. That is to say, it helps students in encoding information during the lecture , and the notes taken play the role of external storage to be used during exam preparation as well.

II.2.4.2. Students' questionnaire discussion of results

The second instrument used by the researcher is a questionnaire for students, in order to get more details about the way(s) students take notes. From the background information part, the researcher finds out that the majority of participants (86% of them) have a good level. All of them got between 10 to 16 in Sociolinguistics, and the most of them (32%+32%=64%) got from 10 to 16 in Psycholinguistics. Besides, 67% of those students take notes, while the other 33% of them sometimes take notes. The last result gives a reason why the majority of participants have a good level, and 13% of them have a poor level. It indicates that considering note taking as a study habit and using it usually can enhance students' academic achievement.

Concerning the 2nd part of the questionnaire, it provides more insights about the differences between students in taking notes and reviewing them. The 1st question in this part indicates that 67% of the participants take notes even if a handout was provided, 22% of them sometimes take notes in such case, while 2% of them do not take notes and focus on the handout only. This result affirms the 4th question finding that about 33% of participants sometimes take notes. Additionally, students are asked if they rely on their notes, the majority of them (76% of them) base their revision on their notes, however 24%

of them do not focus on their notes too much. This result proves that the notes taken play the role of external material support to be used in exam preparation, and it affirms the findings of the t-test result in Psycholinguistics module. Furthermore, only 16% of the participants complete and compare their notes with their classmates, 24% of them do not do such action, however, 33% of them sometimes compare their notes with their classmates. As mentioned in the literature review, Slotte, & Lonka (2001) argued that discussing notes with others transmit the information to the long term memory, but unfortunately, only few participants (16% of them) discuss their notes with their classmates.

In order to get more details about how students differ during taking notes in class, the researcher has asked them more specific questions. The first question is about their preferences about the distance between them and the lecturer. 43% of the respondents prefer to sit closer to the teacher, 24% of them prefer to sit far from the teacher, while 33% of them sometimes sit closer to the teacher and other times do not. The second question is about the tool used by students in taking their notes. The majority of respondents (86% of them) handwrite their notes in lectures. Whereas, only 14% of them use their PCs in taking notes. These differences affect both the students' speed of writing and concentration as well. As a result, the quantity and quality of their notes are affected too.

Equally important, 92% of the respondents state that they choose important information only when they take notes, while 8% of them take all what the lecturer says. This result indicates the students' awareness about the importance of the notes taken in terms of their quality. Besides, since the most of them (86% of the respondents) have a good level, and as mentioned above, 92% of them select important information only, the researcher can say this result affirms the findings of several researchers such as Boyle & Weishaar (2001); and William & Eggert (2002) that choosing important information improves the quality of the notes taken, consequently, students' level will be better. On the other hand, students are asked if they are looking at full pages with information during their revision. 59% of responses are "Yes", while 41% of them are "No". Based on those answers, it can be realized that nearly the half of those students do not organize their notes, and they do not follow a specific method in organizing those notes.

Moreover, respondents are asked if they rewrite their notes. 24% of them answer with "Yes", while 76% of them do not rewrite their notes. The former students are asked about when they do such action. 11% of them state that they rewrite their notes in the

vacation, 67% of them do that each weekend, while only 22% of them rewrite their notes daily. Based on the findings of Ellis (2013) and Kobayashi (2006), those students who do not review their notes during exams only are expected to score less than those who review their notes in advance, and the earlier students review their notes, the more information they can retrieve, and the better they can score.

Additionally, students face some problems during taking notes. 30% of the participants are unable to follow the teacher's explanation, 65% of them sometimes are able to follow the teacher's speed of explanation. However, only 5% of them are able to follow him/her. Besides, students may face some problems even when they revise their notes. 11% of the participants find their handwriting illegible, 76% of them find their notes incomplete, while 13% of them find their abbreviations not clear. Those results reveal that not all students' notes have a high quality and quantity, and students need to treat those problems. Participants are asked about the sources they use to complete their notes. 49% of them use the handout provided by the teacher, 16% of those students complete their notes from their classmates notes, while 35% of them read about the topic . Additionally, they are asked about the way (s) they use to face any difficulty with new words. 19% of the participants ask the teacher about it, 35% of them write it phonetically, 8% of them draw it, and 38% of them let space and they move to another point.

Furthermore, even if students base their exam answers on their notes, they may include information not presented in the lecture from their further readings, other teachers' explanations, the net, or their background information. 70% of the respondents add other information in their answers in exams, however, 30% of them rely only on what is presented in lectures. This result shows that the notes taken in lectures need to be supported by examples or arguments from further sources. Such behaviour can enhance the students' answers, and hence their scores.

The last question in this questionnaire is about the respondents' opinions about the importance of note taking. They gave different answers. 39% of them think that note taking enhances understanding, and 27% of them agree that this skill helps them to memorize better the lecture content. Besides, 12% of them add that the teacher may not include all information presented in the lecture in the handout, so they take notes in order to avoid missing any information. Besides, 18% of the respondents state that they take notes owing to summarize the lecture. In fact, Notes taken can be a summary of the lecture only when

students select important information and if they do not write everything presented in the lecture. 2% of them think that taking notes helps them to concentrate and it motivates discussions in the classroom. The last 2% of respondents declare clearly that note taking assists them to prepare for their exams and tests. As it can be seen above, although respondents have different opinions, they all agree that note taking is important to study better.

II.2.4.3. Teachers' interview discussion of results

The last instrument used in this survey is an interview for teachers. Data gathered from interviewing the teachers of Sociolinguistics and Psycholinguistics modules determine that both teachers taught English at University for more than 12 years. This result reveals that they are experienced in teaching English as a foreign language. That is to say, they faced different situations in the previous years, and they know how to deal with students and solve problems that may occur in the classroom. Therefore, their answers in this interview are based on their experiences and maturity.

Additionally, concerning the way (s) used by them to encourage students to take notes in lectures, both teachers agree that by adding tasks and homeworks, students will be motivated to take notes in class. One of them adds that presenting information not included in the pedagogical support can motivate students to take notes. This last addition is supported by the last question in the students' questionnaire's findings when 12% of the students respond that note taking is important because teachers may not include every detail presented in the lecture in the handout. Furthermore, respondents are asked about other indirect ways to encourage their students, mainly through using non verbal signs. One of them states that teachers' voice and tone of speech are important in their explanation. The other teacher adds that using certain gestures to explain specific details and additions can help students to understand better. Those results confirm Boch & Piolat 's (2005) research findings that verbal and visual cues help students to understand better. In other words, the teacher is like an actor in the classroom. It is said that the teacher is "a sage on the stage", which means s/he needs to be knowledgeable about the subject matter, and what is important is the way s/he uses to transmit this knowledge.

Furthermore, respondents are asked about whether they give feedback about their students' notes or not. They both agree that discussing with students can enhance the quality of their notes. To put it another way, they admit that giving feedback indirectly can

be an effective way to improve students' notes. Meanwhile, they are asked if they provide students with their summaries. Both teachers agree about the importance of providing students with handouts. Their answers support the findings of Mascolo, Alfonso, & Flanagan, 2014; Flippo & Caverly, 2009; and Potts, 1993 that asserted the importance of supplying students with handouts to complete their notes.

As mentioned in the literature review, according to Kiewra (1985) cited in Potts (1993), the majority of students fail to include all important details in their notes. Accordingly, respondents are asked about strategies used by teachers to show an important part in the lecture. One teacher admits that repetition can show the importance of certain details. On the other hand, the second teacher considers asking questions and discussions can highlight the importance of such information. Moreover, new vocabularies may be challenging for students to recognize their meanings, hence, respondents are asked about the strategies they use to solve such problem. One teacher acknowledges that she prepares beforehand those words' explanations, then she asks her students about their meanings. If students do not know them, she explains the words directly. However, the other teacher provides more general answer. He says, "*It is up to what you are teaching and the level of your learners.*" (Interview A).

Speaking about the relationship between note taking and exams, respondents are asked if they base their exam questions on their explanation only. Teacher A permits that the teacher's explanation and handouts help students to better understanding. He adds that students at University are expected to summarize, analyze, comment, and criticize in their written productions. On the other hand, the other teacher adds that even information presented and discussed by students in class are included in exam questions. Moreover, concerning students' answers, those teachers are asked if they can differentiate between those who take notes and those who do not. One teacher do not see any difference between them. He considers learning as a matter of comprehension and intelligence. That is to say, he relates the differences in students' answers to their cognitive differences as it is mentioned in the limitation of this survey that such kind of differences affect students' academic achievement too. Whereas, the other teacher admits that there is a big difference between them, because students who do not take notes base their revision on the pedagogical support only. Therefore, they score less than those who take notes in class.

Based on the findings of the interview, the researcher is able to answer the last question of this investigation that is " what is the contribution of teacher(s) in students' note taking

in class?" She can say that teachers have a great role in improving the students' notes. They show important information verbally or non verbally, they give feedbacks about the students' notes through discussions, they explain new and difficult vocabularies, and they provide handouts to summarize lectures and help students to complete their notes.

Conclusion

This chapter is devoted to investigate the effect of note taking on M1 students' scores in Sociolinguistics and Psycholinguistics modules in Biskra University, and teachers' role to improve their students' notes. It contains two main parts: research methods, and analysis and discussion of results. As discussed in this chapter, both quantitative and qualitative results obtained confirm the positive effect of note taking on students' academic achievement in both modules. In fact, this skill enhances both students' understanding and memory.

Recommendations

Based on this survey's findings, the researcher has found that note taking can enhance students' academic achievement. Besides, even students who take notes differ in the way (s) they use to take their notes. Therefore, even their scores differ. Further, teachers can help students to enhance their notes. With regarding those findings and this investigation's limitations, several recommendations can be made for teachers and for students as well.

The following recommendations are directed to students to enhance their taken notes, and consequently their academic achievement:

- 1. Taking notes in all lectures, even if a handout is provided.
- 2. Using the same abbreviations in all lectures in order to avoid forgetting them.
- 3. Trying to sit closer to the lecturer to listen to him/her better.
- 4. Using a specific method in the organization of notes e.g. the Cornell method and the outline method.
- 5. Selecting important information only.
- 6. Reviewing and rewriting the notes taken as early as possible.
- 7. Discussing and completing their notes with their classmates.
- 8. Supporting their notes with further sources in exam answers e.g. through reading book and checking the net.

As mentioned above, teachers play a great role to enhance the quality and quantity of their students' notes. The following recommendations are offered to help the teachers to achieve this objective:

- 1. Presenting information not included in the didactic support to encourage students to take notes in class.
- 2. Making some non verbal signs to show important information for students such as different voice levels and gestures.
- 3. Repeating key words and asking more questions to indicate important part (s) in the lecture.
- 4. Preparing the explanation of any new or difficult vocabulary before the lecture.
- 5. Providing students with handouts to complete their notes.
- 6. Discussing with students about their taken notes to improve the quality and quantity of those notes.
- 7. Teaching students note taking techniques from their secondary school and 1st year

License.

8. Teaching students note taking not only theoretically but with guided practice as well.

General Conclusion

Note taking has drawn wide scholarly interest. This skill is used by a large number of students to record information for reusing them later in different situations. This study is an attempt to contribute to the research that has been done in this subject while narrowing its scope down to M1 students of Biskra University in Sociolinguistics and Psycholinguistics modules. In order to test the hypothesis that note taking may be useful for M1 students in these two modules, a quasi-experiment is carried out with two groups: experimental group (N=10) and control group (N=9). Besides, a questionnaire for students (N=37) is administered to check the differences between students in taking their notes in class. The results obtained by the t-test and the questionnaire are supplemented by qualitative data gathered by interviewing the two teachers of those modules to indicate the teachers' role in improving their students' notes.

The current dissertation consists of two main chapters: Literature review and research methods and results discussion. The former summarizes the main previous research findings about both note taking and summative assessment. On the other hand, the later comprises two main sections. The first section explains the research methods used in this study, while the second section reports the results obtained from the t-test, the questionnaire, the interview, and the discussion of those results as well. Following the two chapters, the researcher has provided both the teachers and students with recommendations that may contribute to the improvement of students' notes and academic achievement.

The Results obtained from the t-test show a significant difference between the academic achievement of students who take notes and those who do not. Therefore, the alternative hypothesis is confirmed. Additionally, the analysis of the questionnaire's results indicates that students differ in the way they take and review their notes. They face several problems when they take notes and they solve those problems differently. Furthermore, the qualitative results obtained from the interview reveal that teachers can enhance their students' notes through clarifying new words and concepts, verbal and non verbal signs, repetition of important information, and providing handouts and feedback. As an overall conclusion, this thesis proves the positive effect of note taking on students' understanding and memory, and ultimately on the level of their academic achievement.

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Appendices

Appendix 01

Students' piloting questionnaire

Dear student,

This questionnaire is directed to investigate the effect of note taking on students' exam scores in both Sociolinguistics and Psycholinguistics courses. We would like to ask you to help us by answering the following questions. Please give your answers sincerely as only this will guarantee the success of the investigation. Thank you so much for your cooperation.

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

Section I: Background Information

- 1. How do you consider your level at university?
 - a. Very good
 - b. Good
 - c. Poor

2	What is your exam	mark in Sociolinguistics	in the last exam ?	
4.	what is your exam	mark in Socioninguistics	In the fast exam :	

3. What is your exam mark in Psycholinguistics in the last exam ?

4. Do you take notes in these two modules ? Yes No Sometimes

If yes or sometimes, please, continue answering the next questions.

Section II: Note Taking

1. Have you been taught how to take notes before? Yes No

If yes, in Which level ? and how ?

•••	
2.	If the teacher gives a handout, do you take notes during the lecture?
Y	es No Sometimes
3.	Do you essentially rely on lecture notes to prepare for exams? Yes No
4.	Do you compare and complete your notes with your classmates ?
	Yes No Sometimes
5.	Do you try to sit as close as possible to the lecturer ? Yes No Sometimes
6.	Do you use handwriting or your P.C? Handwriting P.C
7.	Do you find that the lecturer has gone on to another point while you are still trying to
	get the first point? Yes No Sometimes
8.	Do you write all what the lecturer says ? or you choose important information
	only?
9.	How do you face a difficulty with new words? You ask the teacher
	You let space
	You write it phonetically
	You draw it
10	Do you rewrite your notes? Yes No

	If yes, when? In the same day .
	In the weekend .
	In the vacation.
11.	Do you find reading and rewriting your notes difficult because of:
	Your handwriting is illegible.
	Your notes are incomplete.
	Abbreviations are not clear.
12.	Which source (s) do you use to complete your notes ?
	Teacher's handout.
	Other students' notes.
	Reading about the topic.
13.	When you begin to study your notes, do you find that you are looking at pages that are
	covered top to bottom and side to side with writing? Yes No
14.	Do you include any new information not presented during lectures in your exam
	answer (e.g. from your further readings)? Yes No
15.	In your opinion, what is the importance of taking notes in lectures ?

SectionIII: Opinionnaire

1. Do you	think that th	e questions	s in this qu	uestionna	ire are dif	ficult to answer?
	Yes				No	
If yes, plo	ease mention	what are t	hese diffi	cult quest	ions	
2. Do yo	u think that t	the layout o	of the ques	stionnaire	is attracti	ive?
Yes			No			
3. Are the	ere any ambig	guous quest	tions?			
Yes			No			
If yes, plo	ease what are	e they?				
4. Are the	ere any repea	ated questic	ons?			
Yes			No			
If yes, plo	ease mention	them				

Thank you very much for your help

Appendix 2

Students' Questionnaire

Dear student,

This questionnaire is directed to investigate the effect of note taking on students' exam scores in both Sociolinguistics and Psycholinguistics courses. We would like to ask you to help us by answering the following questions. Please give your answers sincerely as only this will guarantee the success of the investigation. Thank you so much for your cooperation.

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

Section I: Background Information

1. How do you consider your level at university?

	Very good	
	Good	
	Poor	
2.	What is your exam	mark in Sociolinguistics in the last exam ?
3.	What is your exam	mark in Psycholinguistics in the last exam?
4.	Do you take notes i	n these two modules ? Yes No Sometimes
	If yes or sometime	s, please, continue answering the next questions.
	Section II: Note	e Taking
1.	Have you been taug	ght how to take notes before ? Yes No
	If yes, in Which le	vel ? and how ?

2. If the teacher gives a handout, do you take notes	during the lecture?	
Yes No Sometimes		
3. Do you essentially rely on lecture notes to prepar	re for exams ? Yes	No 🗌
4. Do you compare and complete your notes with y	our classmates ?	
Yes No Sometimes		
5. Do you try to sit as close as possible to the lectur	rer ? Yes No So	ometimes
6. Do you use handwriting or your P.C? Handwriti	ng P.C	
7. Do you find that the lecturer has gone on to anoth	her point while you are still t	rying to
get the first point? Yes No] Sometimes	
8. Do you write all what the lecturer says ?	or you choose important	information
only?		
9. How do you face a difficulty with new words? Y	You ask the teacher	
	You let space	
	You write it phonetically	
	You draw it	
10. Do you rewrite your notes? Yes	No	
If yes, when? In the same day .		
In the weekend .		
In the vacation.		

11. Do you find reading and rewriting your notes difficult because of:

	Your handwriting is illegible.
	Your notes are incomplete.
	Abbreviations are not clear.
12.	Which source (s) do you use to complete your notes ?
	Teacher's handout.
	Other students' notes.
	Reading about the topic.
13.	When you begin to study your notes, do you find that you are looking at pages that are
	covered top to bottom and side to side with writing? Yes No
14.	Do you include any new information not presented during lectures in your exam
	answer (e.g. from your further readings)? Yes No
15.	In your opinion, what is the importance of taking notes in lectures ?
	Thank you very much for your help

Teachers' interview questions

Dear sir/madam,

Firstly I would like to thank you for giving me this opportunity and it's my pleasure to introduce myself. My name is NESBA Kaouther. This interview concerns the effect of note taking on M1 students' scores in Sociolinguistics and Psycholinguistics courses , and the role of the teacher to enhance the students' notes. Before we start , please, let me check firstly, do you agree that this interview will be recorded or no ?

Now, it's important to let you know that if you want to stop at any time or you want to take a break, or if there is any question you don't like to answer please be free to inform me that's absolutely fine.

- 1. Could you tell us about how long have you been teaching English at University? What about teaching "Sociolinguistics/ Psycholinguistics" specifically?
- 2. Let's start talking about note taking, now. In your opinion, how can the teacher encourage students to take notes in the lecture ?
- 3. What about indirect encouragement, non verbal signs for example? Would you provide us with an example?
- 4. Do you provide an outline for the lecture from the beginning ? why ?
- 5. Do you give a feedback on the students' notes? Why?

Do you provide them with your version of lecture notes after class?

- 6. In order to show an important part from the lecture, would you tell us what is your strategy to that? (repetition, intonation, writing it on the board?)
- 7. Now, in order to explain any new vocabulary and you find the most of the students don't know its meaning, as a teacher, how can you solve this problem?

Now let's talk a bit about exams, specifically.

- 8. When you construct the exam questions in Sociolinguistics/ Psycholinguistics do you base your questions on your explanation in lecture only .i.e. Do you give exams that students can completely answer from their lecture notes? (Would you clarify more ?)
- 9. During correcting exam papers, are there any signs that show the difference between the students who take notes and who do not? (Would you give an example?)

Thank you so much for your cooperation ,and for taking time from your busy schedule to conduct this interview. Do you have anything to add?

Example of experimental group notes taken by hand in Sociolinguistics

course

there is hed ff bruige are larger than similar the and the difficulted ye variation. All studies of language in its socio-cultural context assume that LINGUISTIC COMPETENCE (=knowledge of a language) ALSO MEANS KNOWING HOW TO USE THAT LANGUAGE. diclect Linguistic variations) three is variety that ourthe we there brudde 3. It is necessary to distinguish between the speech repertoire of the gto per properties and the specific of the spe and the speech repertoire of the individual "VERBAL REPERTOIRE" SPEECH REPERTOIRE: the choices available for the individual. group of people change specificity. VERBAL REPERTOIRE: the utilization of available varieties. Sociolinguists study the relationship between Different social contexts trigger differences in speech - why? bcs of many How do social relationships affect speech? I where speech reveal social identity? Through accet, greech repertiente What is the role of linguistic variation? Vocabulary variations; Sompre developed are dell cost banch Pronunciation variations; Variations in grammatical structures; Dialectal variations. Then variety. Pronunciation variations; Variations in grammatical structures; nounes -Writting is form of decoding lac. Symboliss lyn. - When yn wately searcodony reading is decoding. anatomic. environment impact the lye.

Example of experimental group notes taken by P.C in Sociolinguistics course

By: Sara Lahlouhi

Sociolinguistic Matters

1st Year Master

G: 03

Social Function:

The social function is the role attributed to language and why it is used, e.g. communication, teaching, etc.

Social Factors:

Social factors are contributing factors that impact language and are relevant to the employing of certain variety of speech (the reasons that push someone to speak a particular language).

These factors may be grouped as follows:

- 1. The participants: who is speaking? Who are they speaking to?
- 2. The setting or social contexts of the interaction: where are they speaking?
- 3. The topic: what is being talked about?
- 4. The function: why are they speaking?

Social Dimensions:

The dimension means the social and cultural distance between interlocutors. The larger the distance between interlocutors, the more the interaction between them is reduced.

Language has a social dimension means that the situation determines the use of language.

The Solidarity-Social Distance Scale:

Solidarity is the relationship between people living in a particular setting (parents, neighbors, e.g. tribal solidarity).

The more interlocutors are intimate, the higher solidarity is. The more interlocutors are distant, the low solidarity is. The more people are close and have an intimate relation, the more they develop something specific to their relation.

Language Continuum (of the same language, e.g. Arabic)
Morocco
Lebanon

Example of experimental group notes taken by hand in **Psycholinguistics course**

Our and an active of words (morphology Reading = & don't have prosodic fedures Listeng - & have prosodic fedures Prosonolic 20 stress, intonotion, Ky Themes, The length the dual-rout & Theory: approcesses a got hoprophic (phonolog. curship = a we can read aloud. - Semants steller - ically Letter columptication of Gouphene Phoneme correspondence. acurphy = o we can read aloud. 2 bearlal roce Tes non-leasing route or Thographic lex rand Crapheme - Broneme -(letter of The Alfmulats) (Ottesportle o Roushing aithout meaning Semantic phonological system, · Journon the Raphy with mean Read aloud regether To uter syllepronds / uterances The person has the least whords the his mented Lexicon So he can unstrestend ad velate ands " properties of spoken be production by Griffing Ferreig, " To explain Tholuel routes Top-olown - bootomap The chapter 2 " edition. The chandbook of psychology pletouls about the course of 5 lecture Conceptualization = Abstract concepts Functional level= a content words (Mrs, Meli, Ns) They re The most infor lent To The structure

Exam questions for Maser 1 in Sociolinguistics

Med Kheider University of BISKA Faculty of letters and languages. Department of fo reign languages English branch Lecturer : TEMAGOULT Slimane Final Examination in Sociolinguistics to First Year Master Students Section one: Say if the statements below are True or False N.B: - Put only T or F at the end of each statement ; - No crossing out is accepted 1- Sociolinguistics is a study of better understanding of human language nature in its natural context. 2- The most appropriate word often used by sociolinguists is socialization . 3- The limits of sociolinguistics is to answer all sorts of WH questions on the nature of languages . 4- Social variables concern mainly the sociolinguistic aspects of the language. Lingmotic beholie 5- Only language can distinguish between human and non human species. 6- An Isogloss is a language demarcation between two communities who use two distinctive languages. 7- An idiolect is an Isolated language of an isolated community . 8- A linguistic variety is a language variation from one geographical area to another . Diakede 9- Informality between speakers increases when the social distance is larger. Soliderity 10- The sociolinguistic domain involves speakers, place and specific topic. money registers 11- A society that uses more than two languages is a polyglossic society . le de anoli provelione from t 12- Code switching and lexical borrowing involve a choice of two registers between two languages.

13- Language shift involves the dominant language over the minority language.

14- When all people of a language die, obviously their language dies.

15- A standard language is generally that one which is codified, written and used as a mediums of instruction.

16-Pidgin and Creole are the two languages where the former is spoken and the latter is written.

- 17- World English is spoken in three circles: the inner, the outer and the expanding which correspond to first, second and foreign language.
- 18- Lingua Franca is a sociolinguistic term often used for communication between members of the same community.
- 19- A vernacular language is a language which has simply no official status of recognition by a government.
- 20- A minority language can be maintained and revived through sociolinguistic mechanisms and social interaction such as school extension of knowledge .

<u>Section two:</u> In a short paragraph of less than 100 words, explain how often do many social group communities interact through the phenomena of mutual intelligibility. Define the concept and give clear examples.

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TWN 501, Sol

Exam questions for Master1 in Psycholinguistics

	Section of Englis	sh	
	Xamination in Psych	olinguistics	
Level: Master two		Option: Applied linguistic	5
Lecturer: Dr. Saliha Chell	i	Date: Wednesday, Januar	y 11th, 2017
Question one: What is the	difference between		(7pts)
1. Speech perception			(1.5 pts)
	evelopment (ZPD) and i+1		(2pts)
	on-lexical route in reading.		(1.5 pts)
	and formulation in generating words.		(2pts)
Question two: Explain the	diagram below in your own words.		(03 pts)
Comprehensibl input The Input H from Krasher Question three: Choose o a. The top-down and b. Garrett's and Leve Question four: Write a pa acquisit	Acquisition Device (LAD) prothesis Model of L2 lea a, 1982, pp. 16 and 32; and ne of the following to write a paragrap the bottom-up processing. It's models of speech production. ragraph in which you explain Long's so ion.	cio-constructivist model of second	Output adapted (05pts)
		Good luck	

Example of experimental group answers in the Sociolinguistics exam

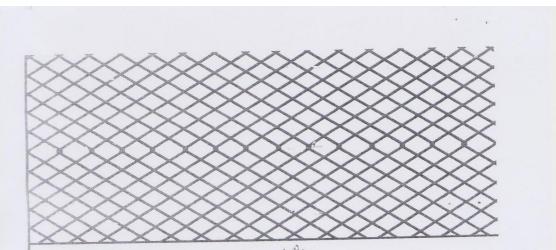
Université Mohamed Khider - BISKRA FACULTE des LETTRES et des LANGUES -init y Département : Enalish department Nom et PrénorNuméro d'inscription :. Module : Socialinquisties Année : 1 Master Groupe : 0.3 Date :... N° d'anonymat Section Two= N° d'anonymat Mutual intelligibility means the degree of intercomprehension between people or dialects of the same language. The more these when intercomprehension. there is mutual intelligibility. If there is a medium inter comprehension there is a medium mutual intelligibility. If there is Note no inter comprehension, there is no mutual intelligibility. Generally. ../ 20 Speaking, didlects of different languages. Dre. Not. nuturally. "intelligible, but 2150 idialects of the same language may sometimes be mutually. inte Migible in them. spoken form. Even their written forms gre still. mutually sutelligible A good trample is that people in Southern Egin fail to understand people from Morthern Spotland or Northern Ireland Houser, their Written form (standard English) is Still mutually intelligible Dialects are spread twoogh geographical areas ... Dr. dialectral continuum. For example. He dialectual continuum of German, Dutch, and Flemish. The Scandinavian Continuum Mat involves Norweigian, Danish, and Swidish The North Slavic Continiusm that includes Slovanian, polish, Utranian, and Russian. The menter Romance Continuing which contains French, portagers, Spanish, Italian, and Catalan. Logically sparking languages belonging to the same chem multuality

speaking, are mutually intelligible; but those drialects which are far. from each other in the chain will be partially intelligible. It means for will be difficulties to understand lach other. Furthermore, languages from both ends of the cliquin will be botally people in Fastern Belgium mutarally - conintelligible even though they are. likked with chain of mitrally intelligible languages (glialects) which in clude = German, the language of Netterlands and Austria. In fact, Sometimes languages may be mutually intelligible, but separated by pelitical factors (boundaries), somety, subjective and geographic factors. Besides our non different normes, e.g. the language of youguslavia is given the name Macede sean variety . Kiar. of Bulgaria. in galled Simply Bulgarian over though they are mutually intelligible (the some language of variety in fact) Section One: ST V TX TX

SFV / SF V 7 TX 8 \F V X F V ---LT. FV 12 13 >T. / 14 / T .15 16 X 17 T 18 19 T 20

Example of experimental group answers in the Psycholinguistics exam

	Université Mohamed Khider - BISKRA
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Note	Speach perception with the pooless. by which nords in a particular language
A. 4. 1	of perceptival rationation where meters move as linked be smutri
	Content of the many of the many of the second of the secon
	The Zewa of provincel development (Z.P.D). has been proposed by
	. Nygutsky which differentiates between a learner's actual development
	and filether putentical development when being helped/ supported by the MKC
	(Lunie Knowledgable others, e.g.) teacher). ZPD follows the Social
2	unteractionist perceptative. The formula (1.+2) represents how comprehension
	input units to cording brit, the mesage in longrage should make sense;
	just beyond the competence of the listener who must stain a wit to
	waderstand "I" refers to greators provbedge of learnes "I" refers to 3 delition
	at acquired, which the wind edge. At have been proposed by prostrin in
	an treasy of "Input/ comprovension"



This diagram represents the "Input-typethesis "Midel" Dupesed by Kroshen. Ascurding but, learner's receive " comprehensible imput" the means they understand messages that contain 55pects of lancprage that they have not yost scaled, but they are ready to acquire a to atter words, the message makes sense by and the competence of the learner who must strain to words the input of the message input in a flow ever, affected by the learner who must strain to words that a flective rearise bles (exanotivention, stress, etc.). Bect or sa first that stops of blocks. language input the offective filter med originage origins and After the input the passed through the offective filter med originate origins for the passed to the fleet we have a whole to passed the word of the passed to the passed the language of the offective filter med originate origins on the stops of the fleet we have a whole to passed the fleet of the passed of the stops of the stops of the fleet we have a the offective filter med originate origins of the stops of the stops of the stops of the fleet of the stops of the fleet of the stops of the stops of the stops of the stop of the wh stored in long-tern memory . The function of Hub Hum ledge or vuller peconding in Knashen's theory of "Menitor Buypothesis", in wetchdogging one's output. It is a way to manitor, siter and correct one's output or language. This, Finally the super shows a may of med electorated.

. Top: down and battom processing one both derived from computer Tep-down precessing refors to processing truthin Knowledge Sciences.o. driven (Knowledge giready Knows), while bottom-up sofers the processions that is data driven. According to the top. down processing, we perceive speech. From general to spece fice . It we fors no taking shi multi from the entricle environment and pareneding them to ligher-level cognitive setivities. A gooding to better up parsessioning Smaller units of malysis are built into gradually larger over live nove (Com specific to general). In whening for example, smaller units are built wo musphenes, mosphanes into into syllabules, syllabules into mero's, moro's milo Sentences, and sentences into propositions and get the "top" the general sense of the efferance. Mereoreg top-down processing refers to theories. of reading and histening that hald that conseiption in formation in much mere important tem perseptind information. On the other frand, refers to Heurier of reading and bote pincy that hold that held that perception information is more important them lintertal. Eschermen, some commentation. anopuertuat hop-indeaurn Koffermation in only used to check holtom- dours in farmations. However, others ... 3. mare intestactive model in win ch. both presessing one in pothant Smygest. and information of both levels in compulsing, but with putting emptission on our rather than both.

hana's socio-constructivist model of Second language ocquisition in called the Interration Hypatheses. According to this by pathesis, Conditions for algers tom Dre good when interacting in the second language ... Ind. 3 break diwin of communication. Orecurs . Then, inter locutors propriate for maning Sach much furtion that grives from Hear Situations help make the input wore compretiversible. Bescher modern research in the field of SLA. thes shown that notive speakers modify them speedus constantly to . Low marisate ... With non-matrice sp. enters. Moreower, ... Luber learness ore interested a in not the simplification of thes and speech, but they are interested in direct interaction in the second langmage strengthing to reach mitral compreheusion. FURHermore, it supports suthenticity. and task-based. No Stevetson. N.G. Centrelinhan I

Example of control group answers in the Sociolinguistics exam

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Example of control group answers in the Psycholinguistics exam

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ملخص

يستعمل تدوين الملاحظات لحفظ أكبر عدد ممكن من المعلومات المقدمة في المحاضرات. تهدف هذه الدراسة للبحث عن مدى تأثير هذه المهارة على علامات طلبة السنة الأولى ماستر في مقياسي اللغويات الإجتماعية و علم النفس اللغوي في جامعة محمد خيضر ببسكرة. لجانب ذلك، تحاول أن تسلط الضوء على الإختلافات بين الطلبة في طريقة تدوين الملاحظات و مساهمات الأساتذة من أجل تحسين ملاحظات الطلبة أيضا. تهدف هذه الدراسة إلى فحص فرضية واحدة والتي تنص على إمكانية التأثير الإيجابي لتدوين الملاحظات على التحصيل الدراسي للطلبة في هذين المقياسين. إلى جانب هذه الفرضية، تأمل أن تجيب على سؤال أساسي و يتمثل في: إلى أي مدى يعتبر تدوين الملاحظات مفيداً بالنسبة لطلبة تدوين الطلبة لملاحظاتهم؟ و هل تدوين الملاحظات على التحصيل الدراسي للطلبة في هاذين المقياسين. إلى جانب تدوين الطلبة لملاحظاتهم؟ و هل تدوين الملاحظات يحسن التحصيل الدراسي للطلبة في مساهمات الأساتذة في تدوين الطلبة لملاحظاتهم؟ و هل تدوين الملاحظات يحسن التحصيل الدراسي لطلبة سنة أولى ماستر في هاذين المقياسين. المنبة الأولى ماستر في هاذين المقياسين في جامعة بسكرة؟ و السؤالان الفرعيان اللذان : ماهي مساهمات الأساتذة في تدوين الطلبة لملاحظاتهم؟ و هل تدوين الملاحظات يحسن التحصيل الدراسي لطلبة سنة أولى ماستر في هاذين المقياسين؟. اللغويات الإجتماعية و علم النفس اللغوي، إستبيان للطلبة، و مقابلة للأساتذة. فيما يخص الإختبار ، الفوج التجريبي (عد و علاوة على ذلك، أخذت عينات عشوائية للإجابة على هذه الأسئلة، أستخدمت منهجية بحث ثلاثية: إختبار في مقياسي و علاوة على ذلك، أخذت عينات عشوائية للإجابة على الإستبيان (عدد الطلبة و قدرتهم على المقيامية المارة أم لا . الطلبة يساوي 10) و الفوج التقليدي (عدد الطلبة يساوي 9) تم إختيارهم عمدا إعتمادا على إستخدامهم لهذه المهارة أم لا . و علاوة على ذلك، أخذت عينات عشوائية للإجابة على الإستبيان (عدد الطلبة 37)، و عينتين للمقابلة. النتائج الكمية ال و علاوة على ذلك، أخذت عينات عشوائية للإجابة على الإستبيان (عدد الطلبة 37)، و عينتين للمقابلة النتائي النتائج و مدوو علي ذلك، أخذت عينات الملاحظات يؤثر إيجابيا على فهم الطلبة و قدرتهم على الحفظ و بصفة عامة، إن النتائج الحصول عليها تكشف أن تدوين الملاحظات يؤثر إيجابيا على فهم الطلبة و قدرتهم على الطبلة على أفضل نائئي