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## Promoting the Teaching of the Research Methodology Course to the Undergraduate Third Year EFL Students at Batna 2 University Using Interactive Methods: Challenges and Innovations

**Thesis submitted to the Department of Letters and English Language in candidacy for the degree of Doctorate Ès-Sciences in Applied Linguistics**

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**Dedication**

*I dedicate this work to:*

*My parents, Djamila & Mohammed*

*My husband, Samir*

*My children,Nidhal & Dacine*

*My Sisters: Nora, Samya, Razika, Sara (& her family), & Ibtissem (& her husband)*

*My Brother Rachid & his family*

*My in-laws*

*The soul of my grandmother, Ashikha*

*All those who taught me and believed in my abilities*

*All people who invest their time doing research*

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## Abstract

Upgrading the quality of students' learning at higher education continues to focus more on finding ways and means to involve students in their learning process. This research study intends to help improve the teaching of research methodology course at the undergraduate level. Its focus is developing students' knowledge of research methodology (KRM), research skills (RS) and positive attitudes toward research by adopting more interactive teaching methods (ITM) through tutoring teaching strategy. At the department of English language and literature, Batna 2 University, quantitative and qualitative data were collected by adopting a descriptive and quasi-experimental design. Hence, data were gathered from: questionnaires (3 teachers and 58 students); Focus group discussions (2 teachers and 18 students); pretests and posttests (control group (28) and experimental groups (30)); classroom observation (experimental group); group evaluation forms (experimental group); and a post-experiment questionnaire (experimental group). After analyzing these data through both statistical and document analysis techniques, results proved that students who received the treatment, interactive tutorials, showed significant research methodology knowledge and skills development. In addition, students developed more positive attitudes toward research. This study strongly recommends embracing the interactive teaching model for the research methodology course and other courses in the English as a foreign language program. Results of this study add to the body of research supporting interactive teaching methods, tutoring, and the research on research methodology pedagogy.

   *Keywords:* Attitudes, EFL students, interactive teaching methods, tutoring, research methodology knowledge, research skills.

# List of Abbreviations and Symbols

**ATR**: Attitudes toward research

**CG:** Control group

**DELL:** Department of English language and literature

**EFL:** English as a foreign language

**EG:** Experimental group

**FGD:** focus group discussion

**GEF:** Group evaluation form

**ITM:** Interactive teaching methods

**KRM:** knowledge of research methodology

**LMD**: License, Master, Doctorate.

**RMC:** Research methodology course

**RS:** Research skills

**SGT:** Small-group tutoring

**SPSS:** Statistical Package of Social Sciences.

**TTU:** Techniques du travail universitaire

**X̄:** Mean

**α:** Alpha.

**$H_0$:** Null Hypothesis.

**$H_1$:** Alternative (research) Hypothesis.

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"Teaching is a profession, and all good professionals know they must work continuously to improve their competence in whatever they do."

(Fink, 2003, p.10)

*General Introduction*

# General Introduction

## 1. Background of the Study

Correcting courses of actions in teaching is not only a need in the professional life of lecturers at the university but it is a duty that it should be fulfilled. Various challenges may arise at different levels of one's career at the university for which each lecturer is presumably responsible for finding solutions. The increasing number of students enrolled in the university each year in accordance with a central decision taken at the ministry of higher education and scientific research, at the Department of English Language and Literature (Henceforth DELL), Batna 2 University, teachers work in inadequate conditions. Consequently, the quality of both teaching and learning is the critical variable that is mostly undermined. Teachers are teaching big numbers of students even when the course necessitates working with small groups, and they are most of the time doing it in the very traditional way of teacher-based lecturing. However, the low quality of learning of students at this Department cannot be justified by just mentioning these shallow technical problems that may be solved by taking just one course of action which is working on decreasing the number of students and dividing them into small groups. Indeed, teachers need to focus more on investigating and exploring developments in teaching, learning and assessment methods of each course to ameliorate the general quality and to achieve the goals of the whole program.

The teaching of the research methodology (RM) course at this Department indeed requires thorough investigation because of its importance in the EFL curriculum. Research methodology is taught at all levels of the LMD system. This course is given significance in the National Program by incorporating it as an independent pedagogic unit in English as a foreign language (henceforth EFL) curriculum. Riche (2010) explained the significance attributed to this

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course in the English curriculum in three main points: (1) Higher education reform requires students' acquisition of skills such as autonomy, learning to learn, mastery learning, etc.; (2) Students need to cope with the emerging information society and learn how to access information, understand it, critically evaluate it, and use it for the sake of their learning; and (3) Students are encouraged to raise their learning potential, rate of success and their capacity to learn by conducting research in different areas of their learning. Moreover, research investigating the significance of RM course has generally revealed that it has positive effects on students' research practices and their expectations about research (Trimarco, 1997). Through this course, students will gain valuable skills and knowledge that would enable them to conduct research. Hence, instructors of this course are urged to take serious measures to guarantee successful teaching and learning.

Teaching RM for five years has allowed me to deduce that this course has always been and is still a challenge for both teachers and students. Research well documented worries of both teachers and students in different departments and grades as far as RM is concerned (Earley, 2014; Lombard and kloppers, 2015; Markle, 2016; Nind and Lewthwaite, 2017; Parks et al., 2011, etc.). Actually, many challenges are faced to teach and learn the methodology course. The difficulty shared by both teachers and learners is a result of many causes among them: 1) The methods used by teachers do not engage students and do not raise their motivation; 2) Teachers seem not to consider pedagogical issues at all; 3) Learning strategies students use do not help acquire the content of the course; 4) The content of the course assigned to each grade does not fit students' needs; 5) The way the course content is assessed and evaluated is still based on traditional summative tests. Hence, this research project is mainly conducted to investigate the issues of teaching and learning of the research methodology course designed for the third year

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EFL students at Batna 2 University; and it is meant to provide more practical solutions for better teaching and learning practices.

Moreover, it has been observed that at this Department, most of the courses are delivered in the traditional way of lecturing. Students passively attend lectures and hold the attitude that the teacher is the only provider and transmitter of information. The lack of students' involvement in their learning process hinders the acquisition of many skills such as: creative and critical thinking, problem solving, and for EFL students' communication skills which are very important not only to learn the contents of the course but also to develop their mastery of English language. Learning RM at this Department also follows this traditional way of delivery. Students attend RM lectures with only one mission that is to take many notes from unidirectional teachers' discourses. However, RM course is expected to be taught through tutoring sessions (TD) and not through lecturing (see appendix A "Programme des enseignements de 3ème année Licence (L3) Domaine: Lettres et Langues Etrangère"). Indeed, this situation does not yield good results because the nature of the course requires students to practice and to exercise in order to achieve better results. To deal with this issue, this research study proposes that in order to meet expectation of the course, the focus should not be only the content but pedagogy as well. Hence, using the Interactive Teaching Method (ITM) through tutorials is proposed. Though in higher education classroom interaction is not well investigated, it is proved that it is effective in especially teaching courses which are based mainly on students' engagement and involvement in the teaching and learning process.

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## 2. Statement of the Problem

In spite of the administrative and theoretical importance of the RM course, the pedagogical issues and problems of this course implementation in the classroom are in a great need to be explored especially at DELL, Batna 2 University. After conducting a pilot study to reflect on the existence of such a need at this Department, it has been found that the research methodology course is viewed by teachers and students alike as a challenging, boring, and complex area of study especially at the undergraduate level. Teachers are not satisfied with the students' achievements and students do not appreciate the ways this particular course is taught and tested.

Thus, students' research knowledge and skills are negatively influenced. This can be easily detected as soon as students are officially asked to write a dissertation, as a requirement of their master degree program, and they fail to even find a research problem let alone review the literature, come with a methodology design, or analyze and discuss data. Approximately all teachers yearly receive supervisees whose research methodology knowledge and skills are below average and their attitudes toward research are negative. Teachers report that most of their meetings with their supervisees were about clarifying basic research methodology concepts that students are supposed to acquire in their undergraduate level.

Therefore, helping undergraduates improve their RM knowledge and skills can save time and efforts for both teachers and students. Teachers will focus more on the journey of research rather than on instructing about RM, and students will present high quality research projects. Both teachers' instruction and students' learning are in need of investigation to arrive at these

results. Accordingly, this study tries to cover the paucity of research on RM teaching especially in the context of DELL.

## 3. Aims of the Study

The present study seeks to investigate our own practice of teaching research methodology to EFL undergraduate students. Thus, the principle aim of our study is stemmed from the general goals of action research that is exploring and developing valuable practices (Torbert & Taylor, 2008). Like any action research, this study seeks to understand the state of undergraduate RM pedagogy at DELL, Batna 2 University. Second, it sets out to implement an interactive teaching method to enhance students' research methodology content knowledge and research skills, and to help them develop positive attitudes toward research. The third aim of this study is to evaluate the effectiveness of the proposed teaching method against students' performance in a myriad of tasks.

## 4. Objectives of the Study

Against the above background, the study seeks to achieve the following objectives:

1. To provide an opportunity for students to cooperatively construct research methodology knowledge and build research skills.

2. To make students develop positive attitudes toward research and enjoy the research journey.

3. To measure the effectiveness of adopting Interactive Teaching Methods through tutoring in promoting the research methodology subject at the undergraduate level.

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**5. Research Questions**

The present study addresses the following general and specific questions:

**General question:** To what extent can a pedagogy based on interactive teaching methods (ITM) applied through tutoring strategy improve undergraduate third year EFL students' research performance in the research methodology course?

**Specific Questions**

1. What experiences and attitudes research methodology teachers have in their teaching practice of this course at this department?

2. How can ITM maximize undergraduate students' research methodology knowledge gain and develop their research skills?

3. Does tutoring students in groups help them co-construct knowledge and develop research skills?

4. Does the implementation of ITM in the form of tutorials help students form positive attitudes toward research?

**6. Hypotheses**

This study sets out to test the following hypotheses:

**$H_0$:** If undergraduate students are taught the research methodology course through interactive and engaging tutorials, their performance in the RM course will not be improved.

**H:** If undergraduate students are taught the research methodology course through interactive and engaging tutorials, their performance in the RM course will be improved.

## 7. Significance of the Study

This study is designed to theoretically and practically contribute to the development of research in the areas of research skills development and classroom interaction at the EFL undergraduate level. Though developing research skills should not be the focus of one specific course, it is significant that at least a RMC adequately accomplishes this task. For this reason ameliorating research methodology training is recommended in preparing students for their academic and professional careers. Failure to address course content and objectives can be a result of many reasons but in this study it is considered that the teaching methodology teachers adhere in teaching this course influences the extent to which students retain, develop, and practically employ research knowledge and skills. Hence, the ITM tutoring model proposed in this study is believed to contribute to promoting not only RM training but also language mastery. Because interactivity actively engages students in all aspects of the learning environment, other personal aspects of students' lives are also going to be positively influenced, to name but few: self confidence, accountability and communication skills. Therefore, by using ITM and tutoring, the RM course will be presented in a more interesting, motivating, and less anxious manner that will lead to satisfying results for both teachers and students.

Moreover, as response to the call made by Garner et al. (2009) to establish a research methodology pedagogy culture, which still receives scant attention, both the theoretical and practical stages of this study try to give an account of pedagogical practices of the RM education. Thus, an Algerian context, particularly the DELL, Batna 2 University, is set to contribute to the international body of literature on research methodology pedagogy.

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## 8. Research Methodology and Design Overview

With the above research objectives, questions, and hypotheses in mind, mixed methods approach for data collection was opted for. Both questionnaires and focus group discussions with teachers and students from DELL, Batna 2 University, were administered to find about teachers' teaching practices and students' attitudes toward research. Since the main purpose of the study is promoting the teaching of RM teaching to undergraduate EFL students using ITM through tutoring, an experiment was conducted with 58 students, divided as 28 students in the control group (CG) and 30 students in the experimental group (EG), to test the above hypotheses. The experiment was divided into two stages. In stage one, both groups were pretested, the experimental group received four interactive tutoring sessions in research methodology, but the control group was taught the same content through didactic lecturing. Students of both groups are expected to produce a research proposal after four sessions. At the end of this phase, students of both groups were post-tested to check their research methodology knowledge and skills development. In the second stage of the experiment, the same scenario of pretest-four tutoring sessions- posttest was followed, but at this stage students received different content and were expected to produce a research project. During both phases of the experiment, the researcher used a self-designed observation grid to trace students' interactivity during each tutoring session (n=8). In addition, EG students were supposed to fill a group evaluation form of each tutoring meeting. At the end of the experiment, the students' questionnaire was administered to evaluate EG students' experience in learning research methodology course through interactive tutorials. The purpose behind diversifying the instruments of data gathering is to insure both the reliability and validity of the findings.

## 9. Delimitations of the Study

Both the sample size of the population and operational definitions of the study variables limited the scope of the present probe. The study was localized at DELL, Batna 2 university and it was carried out with only 58 undergraduate third year LMD students of the academic year 2020/2021. It is also important to mention that the number of teachers (3) teaching research methodology to third year students, which was justified, delimited this study. Conducting the experiment in eight tutoring sessions also bounds the time frame in which students' development was evaluated. In addition, this study was bounded by what currently found in literature defining the key variables of the study. Thus, as an action research project, this study was restricted by the conditions in which especially the experiment was conducted.

## 10. Operational Definitions of Key Variables

The adult learning of any subject is determined by three dimensions as theorized by Illeris (2003, 2009): the psychodynamic dimension including attitudes, beliefs, and feelings; the cognitive dimension including knowledge and skills; and the environmental dimension covering the learner's social, cultural, and material contexts. Understanding students' learning research methods may require examining all these aspects of learning but it is not feasible to cover all dimensions within the scope of this study. The focus of this study is examining the difference between attitudes, knowledge and skills before and after undertaking interactive RM tutorials. Hence, brief definitions of the main variables of the present study should be summarized here. Detailed definitions will be presented in the corresponding sections in the literature review chapter.

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**Knowledge of Research methods (KRM):** The definition of this variable depends on understanding what knowledge is. So, in Boulet's words "The concept of knowledge refers to familiarity with factual information and theoretical concepts" (2015, para.3). Hence, knowledge of research methods is the theoretical concepts gained from a research methods course which help students' overall information about how to conduct scientific research. In this study, it is measured by students' retention of course content. An important criterion of knowledge is that it grows by adequate exposure to a certain body of information; that is both the quantity of information and the ways of its presentation play a role in retention. Knowledge is important for building any skill, so what are research skills?

**Research skills (RS):** In his article Boulet (2015) continued to give a comprehensive definition of skill and he said "Skills […] refer to the ability to apply knowledge to specific situations. Skills are developed through practice"(Boulet, 2015, para.4). As such, in this study, students' research skills are understood as their practical application of their KRM and their abilities to employ methodological knowledge in real contexts. Skills are measured by the quality of the task performed; for example, in this study, students' research questions can measure the extent to which they can apply their knowledge of how research questions should be formulated in real contexts.

**Attitudes toward research (ATR):** Attitude is defined as "…individual's disposition to react to certain object, behaviour, person, institution, event or other … aspect of the individual's world" (Abun et al., 2019 p.75). It is agreed that attitudes carry the meaning of evaluation, and that is why "it can be measured through the reaction or responses of the person toward the object … which may be favourable or unfavourable toward the object, persons, institution,

events or situations" (ibid, p.75). So, students' reaction to the task of research can be said to be favourable (positive) or unfavourable (negative) and in this study the change of attitude is evaluated before and after the interactive tutoring intervention.

The above three variables are considered dependent variables in this study. That is, they are the variables which are going to be measured after the intervention.

**Interactive teaching methods:** Giorgdze and Dgebuadze (2017) define this mode of teaching as "An interactive approach involves interaction in dialogue mode…In other words, an interactive teaching method is a form of learning and communicative activity in which students are involved in the learning process and reflect on what they know and what they are thinking" (p. 545). The focus of this study is creating a learning environment in which "…interaction between learners affords the benefit of receiving feedback or prompting from each other, with each partner having some complementary knowledge or perspectives. The different knowledge and perspectives further provide the opportunity for co-creation or joint-construction" (Menekşe, 2012, p.21)

**Tutorials:** Tutorials are viewed by Topping and Ehly (2001) as instructional strategy that provides an opportunity for 'the development of knowledge and skills through explicit active helping and supporting among status equals or matched companions, with the deliberate intent to help others with their learning goals' ( p.114). Hence, teaching through tutoring helps provide a context where students, in RM course, collaboratively work together and with the tutor and learn with and from one another in order to promote in-depth subject knowledge and skill development.

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In this study, interactive teaching strategies are practiced through adopting tutorials as the main teaching strategy during the whole period of the intervention. So, interactive tutoring is the independent variable of the current study.

## 11. Structure of the Thesis

The present research work is organized in a way that both sequentially presents its theoretical and practical parts and logically adheres to the norms of scientific academic composition. Thus, in addition to the general introduction and general conclusion, the main body of this thesis comprises: four chapters reviewing the literature; a chapter explaining research methodology and design; three chapters analysing and discussing data; and a chapter presenting pedagogical implications, recommendations, and suggestions for further research.

The first chapter reviews pedagogical innovations in the Algerian University. It is highlighted that the ELT in the Algeria University went through many changes which brought reform and novelty. Hence, this background chapter seeks to review the profile of the innovative pedagogical measures and practices recently characterising the Algerian HE classroom instruction. The second chapter presents arguments to support interactive teaching. Modern didactics acknowledges the advantages of a teaching methodology based on the principle of developing students' creative and critical thinking, discussion, argumentation and communication skills, and group-working. In spite of the complexity of classroom constraints and practices, ITM proves effective in solving many of the pedagogical problems. In the third chapter the focus is on tutoring as a form of instruction in higher education. This chapter is tightly linked to the previous one because it sets a suitable background for the application of the principles of ITM. It is argued that effective tutorials especially if they adopt interactive teaching strategies can better engage students in genuine learning opportunities which help them academically and socially develop.

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In the fourth chapter, studies related to research methodology pedagogy are critically reviewed. It is found that there is a paucity of research methodology pedagogy culture. However, the disseminated research on RM pedagogy presents good practices of research methodology teachers especially at higher education.

Chapter five brings forward the research methodology and design. In this chapter, methodological choices are made to justify the research design, instruments, procedures, population of the study. The different materials used in the process of data collection and analysis are presented. Ethical issues that may rise particularly in this study are also given credit.

In chapter six, which is data analysis and discussion, both quantitative and qualitative measures are used to analyse the data gathered from the data gathering tools used in this study. The effect of ITM on students' academic achievement is examined. The results revealed positive influence of this method of teaching compared to the traditional lecturing method.

Chapter seven summarises the main results of the study and its pedagogical implications as well as recommendations that can especially help RM teachers and can assist students in their research methodology learning. Possible research work on the issue of RM pedagogy is also given credit in order to develop a RM pedagogy culture.

*Chapter One: Innovation in the Algerian Higher Education EFL Teaching Methods*

## Chapter One: Innovation in the Algerian Higher Education EFL Teaching Methods

**Introduction**

Continuous progress of society calls for continuous development of mainly educational activities. In this era of the twenty first century, individuals are more required to continually upgrade knowledge and abilities and develop new skills and competencies for more active contribution to the development of the community. So, it is imperative for training institutions especially the university to raise the quality of education to meet such expectations. This chapter aims at presenting the body of research on innovation in education with special reference to the context of the Algerian higher education EFL teaching methodology. Indeed, this chapter serves as a background to the whole study on the basis of which the researcher clarifies and justifies her research and teaching perspectives in this research study.

**1.1. Understanding Innovation in Higher Education**

In this era of rapid technological development, the higher education landscape drastically changed to meet the demands and expectations of the society at large. Being the main enterprise of higher level professional training, the university is required to cope with all aspects of innovation that upgrade educational practices. Raising the quality of higher education and improving students' learning always drive the reforms and innovations that are undertaken throughout history. It is through the process of scientific top-down and bottom-up evaluations of the current situation of the educational system that innovations are introduced and hopefully implemented by the practitioners. However, not all innovations are welcome by the practitioners and they may be rejected for many reasons and the main one can be the unwillingness to change. Keeping with old practices may cause hindrance to the process of innovation implementation to

take place and this stage of stagnation is reflected in students' low quality learning and high rates of dropouts. Teachers and students are the main human factors that drive any innovative measures to success. Indeed, "innovation is always needed in education as it allows us to take stand against passivity and stagnation" (Baiche, 2009, p.15). So what is innovation? And how it is successfully implemented in HE classroom?

**1.1.1 Definition of innovation.** Literature provides so many definitions to the word innovation inside and outside the educational sector. The following definitions give credit to the word innovation starting from the very general to the more specific. Specific definitions are those which are taken from studies done particularly in higher education context to confine the scope of innovation at least for the present research study.

To begin with, innovation is always related to all that is new, creative, improving, and challenging for some people (Rogers, 1983; Baiche, 2009). In addition, to be innovative means to take some level of risk because of the unsettling process it requires for potential improvement (Fink, 2003). It is often mistakenly thought that innovation is synonymous to reform and change. In fact, these three terms are clarified to have different meanings. Pratte (1974) argued that innovation and change are not interlinked and innovation does not require change to happen. According to Hare (1978) innovation is a change of some value. OECD (2016) report summarises the differences between these three terms as the following table shows.

Table 1

*The Difference between Innovation, Reform and Change (OECD, 2016, p. 16)*

|  | **Innovation** | **Reform** | **Change** |
|---|---|---|---|
| **Definition** | Implementation of improved ideas, knowledge and practices | Structured and conscious process of producing change | Transformation or alteration that may be an intended or unintended Phenomenon |
| **Key characteristics** | Implies novelty and brings benefits | Produces change (though in some cases only little or none) | Is historical, contextual and Processual |
| **Types** | Process, product, marketing or organizational Incremental, radical or systemic in form | Radical, incremental or systemic | Differentiated by pace (continuous or episodic) and scope (convergent or radical |

It is also made clear that innovation and creativity may be interpreted as substitutable but there is a difference that should be mentioned. According to  Adair (2007) (cited in Laali, 2016) "Creativity is the faculty of mind and spirit that enables us to bring into existence, ostensibly out of nothing, something of use, order, beauty or significance" (p.8). According to Laali (2016) innovation-creativity relationship should be integrated into any pedagogical situation.  He stated "It is very crucial to consider introducing new methods and techniques in teaching everyday to let more learners invest best their creative potential in solving learning issues, adopting better thinking, and gaining more intelligence to solve problems" (2016, p.7)

**1.1.2. Meanings of Innovation in Education.** In the educational setting, changing and modifying existing pedagogical approaches and other practices within the classroom community and bringing improvement to student learning and achievement can be considered innovation. So, Innovation in teaching "...is the process leading to creative learning, the implementation of new

methods, tools and contents which could benefit learners and their creative potential" (Cachia, Ferrari, Ala-Mutka and Punie, 2010, p. 19 cited in Laali, 2016, p. 7). Didactic innovation is also defined as:

> the process of forming theoretically considered and practically founded changes in instruction that are a result of conscious, planned and creative work of teachers and will in the process of execution lead to an improvement of existing school practice on the levels of the teacher's didactic skill and his or her conceptions, attitudes and thinking, the school atmosphere and the teacher's broader understanding of his or her own professional development" (Valenčič-Zuljan, Kalin, 2007, cited in Valenčič Zuljan & Vogrinc, 2010 p.458).

Nurutdinovaa , et al. (2016)  considered innovation in education as "…should be given into both the theoretical and empirical skills and the general redesign and modernize the traditional curricula as well as implement teaching practices that will facilitate the development of the necessary skills and competencies" (p. 3808). However, it is important to point out that "It is commonly the case that what one person is prepared to call an educational innovation, someone else will dismiss as nonsense" (Hare, 1978, p.71). This is mainly because what brings improvement and development in one environment may not yield any positive results in another similar environment with different educational conditions and beliefs.

Training provided at universities and other higher education institutions cannot be developed without considering new reforms and innovations. Segrera, (2010) urged that:

> Universities need to lead a reform movement that is premised on a broad social mandate, that provides more relevant and innovative curriculums, and that creates teaching-learning communities. The university community is the one who must lead change and

innovation from within our institutions, For this, broad world information on the university is required, knowledge of the best experiences of university transformation, a solid institutional project, flexible normative provisions and a determined political will for change. With these prerequisites, reforms would not be spasmodic and unfinished episodes, for the university would permanently reform itself. (p.2)

At the territory level, Wickramasinghe & Upeksha (2016) argued that the key to deeper learning is directly depends on providing students with innovative and stimulating learning environment (p. 2). Trying more innovative methods can help lecturers cope with the continuous educational and social changes. Efforts of teachers to bring innovation into action should not be denied. Jorgensen (2006) poses the question of why innovation in education is a must. There are at least three reasons: a) the number of new research insights into teaching and learning (e.g. streaming approaches and individualization of teaching, theory of multiple intelligences, etc.) b) the ever more complex educational aims and more diverse and demanding learner groups, and c) the pace with which information becomes obsolete. Moreover, as Nurutdinova**a** , et al. (2016) argued that improving the various aspects of education comes mainly as result of the introduction of the Information Technologies and Communication especially Electronic Learning (e-learning).

      **1.1.3 Levels of innovation in education**. According to Wiles et al. (2011) (cited in Fields 2015, p.62), innovation can be categorized in three levels of novelty First, the lowest level of innovation relates to "adoption" where established methods are taken and applied; or methods are combined; or where established methods are taken into a new discipline or sphere of study. Second, the mid-level of innovation relates to "adaptations". The teaching method is adapted or changed to meet the needs of a specific teaching context. Third, the highest level of novelty relates to "inception" where a new or novel method is used. So, innovation ranges from the very

radical changes to the whole educational system to the simplest actions taken by the teacher in a try and error experience to improve students' retention rate. Therefore, for the work presented in this thesis, innovation would mean adopting a new teaching pedagogy aiming at bringing continuous improvement to the teaching of the research methodology course which is based mainly on using interactive teaching techniques as it will be explained in the next chapter.

    **1.1.4 Streams of Educational Innovation Implementation.** Maciejowska and Frankowicz (2010) believed that "Implementation of innovations is an indispensable element of quality assurance and enhancement" (p. 104). According to them innovation in the educational field falls into two streams which mutually influence each other (p.103). They are:

1. **Stream One**: It is related to the general processes occurring in the art of pedagogy and organizational changes in higher education. Pedagogical innovations may concern many aspects of the education process, e.g. curriculum, teaching & learning environment, teaching & learning methods, assessment/evaluation methods, teacher's and student's work organization.

2. **Stream two:** It is connected with changes in a subject area.

Such innovations may occur at different levels and scales as the following figure shows:
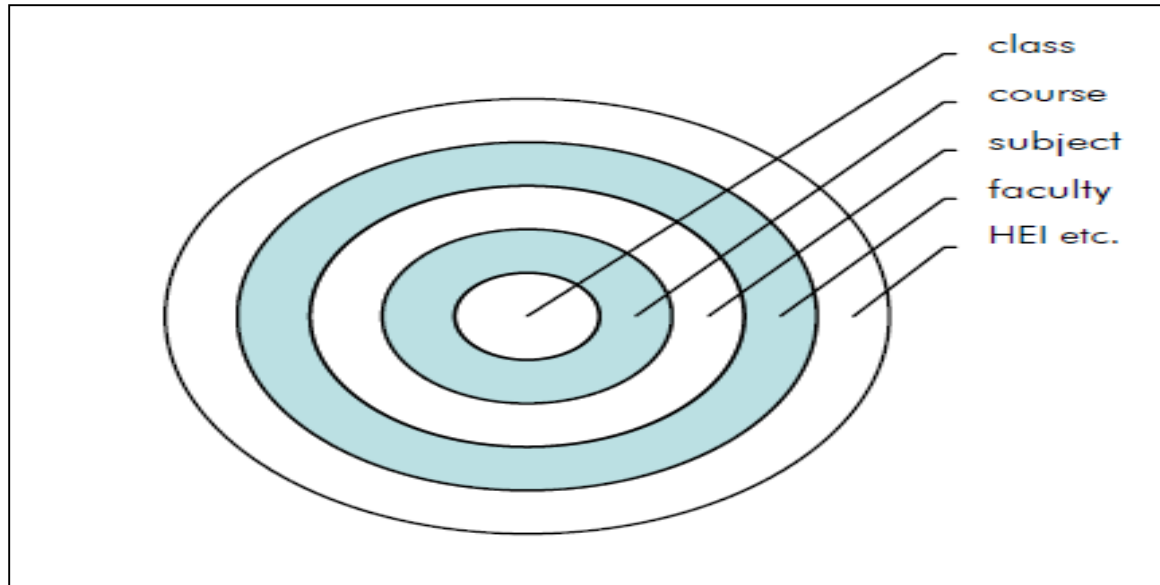
*Figure 1* Organizational levels (Maciejowska and Frankowicz ,2010, p. 104)

So, the research conducted aims at disseminating findings of stream two type of innovation implementation which mainly targets class and course improvement.

**1.1.5. Major Innovative Pedagogical Practices in Higher Education.** All elements of any educational environment are reported to be innovated to satisfy the needs of the students and to guarantee favorable employability requirements. Ameliorating higher education training requires different innovative pedagogical measures. The latter can take the form of a new and modified curriculum, teaching methods, assessments and testing techniques, and classroom management. Indeed, any innovation taken at the level of any element of educational environment will directly or indirectly impact the other elements; adopting a new teaching method will require modifications at the level of curriculum, evaluation, and teacher and students activities. The following are some examples of innovations at the level of the teaching methods.

1.1.5.1 Emerging Innovative Teaching Methods. In their paper Damodharan and Rengarajan (2007) have summarized the innovation in teaching methodology in the following points:

**A) Multimedia learning process**

The emergence of the digital media has revolutionized the world of teaching and learning. Teaching in different domains has adopted much sophisticated multimedia technology as an innovative teaching and learning strategy to encourage students for lifelong learning and to prepare them for the employability demands. Teachers integrate interactive digital tools such as text, images, audio and video to present the content of the material in a more meaningful and motivating way. In fact, the advantages of the digital media for teaching cannot be covered in these lines as it has immense positive influence on both the teacher and the learner especially in language teaching domain.

**(B) Other Innovative tools suggested**

Though the following list of tools can be traced back to the 60s, the authors have shown how they can be still used in more innovative ways.

**(1) Mind Map**

Teachers can use mind mapping strategy to explain concepts in an innovative way. Because of their visual quality and their nonlinear nature, a teacher could use mind maps to review all the elements of the content of the material presented and students could remember the information easier. It may seem that this is the traditional function of mind maps but the authors have explained further that the teacher should present mind maps in more creative ways by using the visual and sensory tools as they have explained " Pictures, music, color, even touch and smell play a part in our learning armory will help to recollect information for long time" (p 8)

**(2) Teaching with Sense of Humor**

It is agreed that using humor in teaching is a very effective tool for both the teacher and student. Humor can strengthen the relationship between student and teacher, reduces stress and relax people, makes a subject interesting, and hence create a more interactive atmosphere of learning and communication. Though sense of humor is a strategy that is well known since donkey's ages but innovation can lie in the how it is presented to students; teachers can also create innovative tools to create a humor in the classroom by bringing to the classroom truthful situations about real life or by reading books of jokes and listening to professional comics.

**(3) Z To A approach**

Though it takes quite long time for a teacher to introduce a concept by using the Z to A approach, it is proved useful for students to better recall information. This approach depends on presenting the effects of a concept and then leading students to discover what is it. Again, teachers can be innovative through this approach by creating situations that are more interactive and communicative to make the process of induction easy for students by giving oral examples, showing pictures or even presenting a video.

**(4) Mnemonics Words approach**

Concepts may also be explained to students by just saying mnemonics or its associated meaning in words. This strategy depends on explain the concept through related words but not sentences. When the teacher reaches his goal by making the entire student clear about a certain concept, then he has to explain in full and meaningful sentences.

**5) Role playing and scenario analysis based teaching**

Role playing and scenario analysis are best used in lectures where students are taught how to solve a particular issue or problem. By this practical approach to teaching theory is

supported by proper practical knowledge. For example a student can hold the role of teacher and expose them to decision making situations such as explain a particular concept or dealing with some classroom management issues.

They concluded their paper by pointing out that:

1.   The role of student is more important than teachers in the new paradigm of learning;

2.    Teaching depends upon successful and innovative mode of communication;

3.   Teaching would be highly effective if the teacher use the recent multimedia technologies;

4.   Any methods of teaching are considered innovative if they ultimately serve the attainment of core objective of teaching.

   **1.1.6 Factors leading to Successful Innovation Implementation**. There are some factors which contribute in advancing the success of innovative teaching. One of the fundamental conditions for significant changes of educational practice is the teacher's competence for innovating and research. Valenčič Zuljan and Vogrinc (2010) point out that reaching successful innovation implementation necessitates practice and evaluation from the part of teachers supported by experts in the field. Moreover, the status of teaching profession within the broader social and economic conditions of the country determines the extent to which any educational innovations are successfully implemented.

**1.2. EFL Teaching Innovations in the Algerian Higher Education Context**

   Improving the educational system in general and EFL teaching pedagogy in particular are prioritized in Algeria. It was always aimed from the various reforms that were introduced especially at higher education to upgrade the quality of the services and teaching provided to students of all domains. Coping with the international educational development requires continuous evaluation and improvement of the existing pedagogical practices and introduction of

better and effective ones. The results of the continuous educational research which bring forth innovations for the EFL teaching also brought a lion share innovations especially to higher education EFL teaching methodology. However, not all of these innovations are welcome by the educational community as Baiche (2009) commented "The introduction of communicative language teaching in the 1980s and, more recently, of competency-based education to EFL in 2003 in our schools are good examples of resistance to change" (p.47). But, it is worth noting that "Implementation of innovations is the necessary condition for improving teaching standards." Maciejowska and Frankowicz, 2010, p. 118).What follows explains further both the reforms that were introduced to the Algerian university in general and EFL teaching in particular.

    **1.2.1. Algerian Higher Education Major Reforms.** Any development in higher education plays a critical role in the country's economic, scientific, technological, social and cultural development. To sustain the vitality of higher education in a country, a series of reforms should take place. Benziane (2004) has traced the major higher educational changes in light of the phases of the economic reforms. In the first phase (1962-1970) which follows independence no reforms were made but it was just the legacy of the French educational system that was still rolling. However, an intention for development was documented as "In 1966, development planners called for wider democratization of higher education and 'Algerianisation' of its personnel" (ibid, 2004, p. 103). The second phase (1970-1980) witnessed radical change took place and the number of students increased and the contents of teaching programs were changed in order to cope with the ambitious economic and social government programs. The next phase (1980-1990), which is marked by the transition to a market economy, has been marked by minor modifications to the previous phase and continuous development of students' numbers as well as disciplines. The following ten years (1990–2000) were hard for all sectors including higher

education because of the economic crisis. But the year 1999 has witnessed the second major reform which aimed at preparing "Algerian universities to support the transition from a centralized to a free market economy" (Rahali & Bendiabdellah, 2015, p.216). Universities also became more autonomous in order to sponsor research and development programs. However, the Algerian universities are still dependent on the Algerian Ministry of Higher Education and Scientific Research which cannot do more than supporting the teaching. In the 21st century (2000 till now), which is mainly characterized by globalization of all sectors, the Algerian higher education sector went through another third major reform. Instructional programs did not respond to the needs of this era and there was a need to "…provide an education that is constantly being brought up to date with the latest innovations, allowing students to acquire the skills and tools needed to enter the labor market" (Benziane, 2004, p. 110). Both the educational architecture and programs were reformed by mainly introducing the LMD (license, master, and doctorate) system in 2005. Further explanation about this reform will be presented in the next element.

Benrabah (2007, p.226), has identified three major phases that the Algerian educational system went through. He summarized them in figure 2:

| Phase One | Phase Two | Phase Three |
|---|---|---|
| Characterized by the colonial legacies | The late 1960s to the late 1990s | Began in the early 2000s |
| A network of schools and an educational system dominated by the French language with Arabic growing steadily in importance. | Corresponded to the socialist-era central planning economy, called the nationalist transition. The Arabic language was gradually imposed in the educational sector. | Corresponding to the transition to the free economic market with less assertive arabisation policies. During this phase, the authorities have encountered hostility to the reform of the schooling system |

*Figure 2* The Algerian Educational System (Benrabah, 2007, p.226)

1.2.2. The LMD System in the Algerian University.   Following the Bologna process decisions of 2003, in 2005 the Algerian higher education system was reorganised to be consisted of License/Master/Doctorate degrees (Benouar, 2013). In her paper , Rezig (2011) has explained the introduction of the LMD reform to the higher education system of Algeria in the 2004/2005 academic year; she explained further that  "it is a new university system initially called the B.M.D issued in the Executive Decree 04-371 of November, 21st 2004 on the creation of a new bachelor degree." (p. 1328); she cited Lakhal Ayat (2008, p.109) stating that: "Initially designed in the Anglo-Saxon countries, it (The LMD) is spreading nowadays everywhere, and Algerian authorities decided to apply it in partial replacement of the current system". It was aimed through this drastic reform to respond to the educational reforms taking place worldwide and to present to the Algerian students something more attractive and competitive. Benouar (2013) identified the following characteristics of the Algerian higher education under the LMD system: (1) new

education architecture, (2) reorganization of the teachings, (3) evaluation and accreditation of education programs and (4) contents of innovative educational programs. He criticised this reform as he stated "The educational programs offered in the higher education institutions are mostly theoretical, creating a trend of lack harmony between their content and objectives, as well as between the skills taught to students and the needs and of the society".(p. 365)

However, many researchers found that this new reform also suffers from various deficiencies that should be evaluated. Laali, (2016) believed that:

> The reform should be itself reformed embracing a fresh label entitled: "Innovative Higher Education" to catch up with a precious lost time and bettering the whole process. Priority should be given to human resources; we mean teachers as perfect raw models and learners as future successful potentials. In addition to the revision of learning/teaching perspectives, curriculum and professional development, other important factors have to be revised including: Controlling and managing flow of students, empowering teachers sufficiency, more institutional communication, collaboration and work contribution, finally complementary roles of economics, education and politics. Revision and re-evaluation of the whole pedagogical system could help us detect and eradicate the black points, to clear the way for a new wave of flourishing what to regain our real cultural and educational prestige within the international community.  (p. 12).

After fifteen years, research has proved that this new reformed system of higher education suffers from many deficiencies that should be addressed to stay updated with current trends of international education system.

**1.2.3. Areas of Innovation for the Algerian University Teaching.** Because there is a paucity of research on innovation in the Algerian university, it is hard to report different views

on what measures should be taken to boost development in particularly the Algerian university. Among the few studies conducted on this issue are the works of Azzi (2012), Abdellatif-Mami (2013), Benouar , (2012), Benziane (2004), Bellalem, (2014), Laali (2016), Nebbou (2017), and Rezig (2011). Reviewing these studies revealed that the last reforms of all levels of education were not welcome from the part of the practitioners and they hold negative attitudes towards them. Hence, it was agreed that the current educational system suffers from many problems that should be urgently solved.  However, suggestions for solving these problems were proposed by these studies as it will be explained further in the subsequent paragraphs.

For example, Laali, (2016) suggested four major areas of innovation that may contribute to the reform of the Algerian university for high quality academic achievement, and effective performance skills in order to satisfy the employability requirements. They are as follows:

1. **Contextualization of learning and teaching:**

Depending on the definition of Mazzeo (2008) Laali (2016) believeed that students should be exposed to an academic content that assures smooth participation in real life situation. In order to achieve this, two models of implementation were proposed: The **stand-alone classroom practices and linked courses or learning communities**.

a) **Stand-alone classrooms**:

In single classrooms, students are directly taught work skills and they are given opportunity to actively practice these skills in their academic context.

b) **Linked courses or learning communities:**

This mode of contextualized teaching and learning is built with the premise that learning work skills in the academic context can be better achieved through a series of connected courses

instead of separate ones. The success of this mode depends on the degree of collaboration between instructors and also their students.

Laali (2016) believes that the second mode can be better applied in the Algerian because of the big number of students.

## 2.  Curriculum design:

The second area that should be innovated is curriculum. Curriculum should be redesigned to cope with developments of teaching/learning methodology, new students' need, and the development of technology. The new curriculum should achieve the following objectives (Laali, 2016, p. 10):

- Respond to student diversity: different profiles including different social and cultural backgrounds, experiences and needs.

- Prepare graduate students to professional career success: provide students with the necessary skills and competences to be ready for the workplace, general knowledge is no longer sufficient.

- Integration of technology: the use of social network technologies, virtual learning (web), computing, video conferencing, videos, etc. The university should invest in the implementation and development of e-learning and speed communication to modernize higher education.

## 3.  Professional development

Any innovation in education cannot be successfully implemented without adequately professionally preparing teachers. Achievement of the students depends so much on the extent to which their teachers accept, adopt, and challenge their old beliefs. This will not happen without receiving serious formal academic training on the new pedagogical innovations. So, it is very

important for the Algerian university teacher to be trained at the beginning of his career and continue his professional development throughout the whole career by sharing experiences with senior teachers during seminars, conferences, study days, and why not attending each other's classes.

For Nebbou (2017) continuous evaluation of curriculum, teachers' training programs, students' needs, technological tools, and teaching methodologies contributes to the development of the educational system. With particular reference to the EFL field of study, Azzi reported that Algerian EFL academics hold "…negative perceptions of the new pedagogical practices within the LMD system which might explain their failure to adopt them" (p.1004). Moreover, curriculum objectives were also seen as vague, so they are left for individual teachers' efforts to be specified. She concluded by suggesting that discussing and understanding these negative perspectives is the first critical step toward innovation implementation. In addition, knowledge about successful experiences of LMD system elsewhere would help change these perspectives and give incites for better future implementation. Bellalem (2014) and Abdellatif-Mami (2013) urged to consider integration of students in both curriculum evaluation and design in order to assure achievement of objectives and high quality training leaving space to creativity and critical thinking skills to develop.

**1.2.4. Innovation in the Algerian Higher Education English Language Teaching**. The reforms explained above highly require the integration of the English language as an international language in the programs of all disciplines. Good mastery of English is demanded to cope with recent research in all domains. Teaching English as a major and English for specific purposes at university were greatly influenced by the LMD system. Curricular were innovated to meet the needs of the students and their fields of study. And in order to achieve the objectives of

the new curricular, teachers were supposed to adapt their teaching methods, materials, and assessment means. Moreover, "To implement innovations, a teacher should possess knowledge, abilities and the right attitude towards them" (Maciejowska & Frankowicz, 2010, p. 111).

To introduce any innovation in English language teaching (ELT), evaluation of existing practices is critical. Nebbou (2017) pointed out that "In the absence of an effective evaluation program, teachers can hardly be aware of what parts of their teaching are most important, how well their students are expected to perform, or how best to address student learning needs"(p. 470). Making evaluation part of the classroom activities can enhance the effectiveness of the methods, means, techniques, and materials used in ELT. Thanks to evaluation programs, in Algeria ELT also moved from the traditional pedagogy that considers language teaching as stimulus-response process to modern pedagogy in which the learner is the focus of the teaching process and learners' learning styles, classroom interactivity, and learners' feedback are highly prioritized (ibid, 2017). In addition, Benettayeb-Ouahiani claimed that (2016) "Recently and with requirements of the multilingual age, university teachers are urged to step towards innovation in their classrooms and at large scales" (p.3).

**1.2.5. Innovating the EFL Assessment System in Higher Education**. Benettayeb-Ouahiani (2016) conducted a whole study investigating the innovative measures taken in order to improve EFL assessment under the LMD system in Algeria. She believes that: "As far as EFL teaching/learning at the university is concerned, novelty in this innovatory system lies mainly in the way students are assessed, i.e., the area of assessment" (p.5). Focusing mainly on what the LMD system brought to the assessment area, she argued that novel and alternative ways of evaluating students' achievement should replace traditional ones. New labels of assessment emerged to reflect the principles of the new paradigm, for example,  "performance assessment",

"authentic assessment", "portfolio assessment", "informal assessment", "situated (or contextual) assessment", and "assessment by exhibition" (Ibid, p.5). She argued that these forms of assessment should be integrated in HE EFL classroom. Students' integration in assessment (self-assessment) has also to be well implemented to ensure student involvement not only in the teaching process but in the evaluation process as well. Moreover, alternative methods of assessment also employ all types of ICT that assure high quality evaluation.The following table (as cited in Benettayeb-Ouahiani, 2016, p. 5) shows the major differing parameters of assessment between the classical system and the LMD system.

Table 2

*Old and New Paradigm of Assessment (Benettayeb-Ouahiani, 2016, p. 5)*

| Old Paradigm (Classical System) | New Paradigm (LMD System) |
|---|---|
| - Focus on language | - Focus on communication |
| - Teacher-centered | - Learner- centered |
| - Isolated skills | - Integrated Skills |
| - Emphasis on product | - Emphasis on process |
| - One answer, one-way correctness | - Open-ended, multiple solutions |
| - Tests that test | - Tests that also teach |

She concluded her study by stating that:

> In the field of assessment and with reference to EFL teaching/learning in Algeria it is a reality that many teachers are unfortunately still hesitant to deal with novelty by implementing diverse forms of assessment in their classrooms, particularly the ones

which are more 'learner-centered' in the sense that they are proved to be more effective

in providing learners better control over their learning" (Benettayeb-Ouahiani,  2016, p. 3)

This research study revealed that in spite of the fact that EFL teachers as well as students are aware of the need and existence of novel and alternative methods of assessment, they still go through the traditional ones because they assure their comfort zone though they were proved ineffective. As she has recommended, it is really urgent to adopt new ways of evaluation that cope with E-learning especially as life conditions are changing because of the COVID19 pandemic.

**Conclusion**

Reviewing ELT in the Algeria University reveals that many changes took place. Reform and novelty are aimed for but the traditional methods of teaching and assessment are still prevalent. Hence, Algerian EFL university teachers need to adopt 21st century teaching methods and procedures in order to develop their students' competencies and skills which fulfil the requirements of the current job market.

*Chapter Two: Understanding Higher Education Interactive Teaching Methods*

## Chapter Two: Understanding Higher Education Interactive Teaching Methods

**Introduction**

Modern education calls for students' independent activity, self-learning environments, and especially interactivity where students have a choice of actions; form their ideas, opinions, and conceptions; and align them to their real life experiences. At the tertiary level, the demand for using alternative methods and procedures that promote active and interactive learning, instead of the method of lecturing, that is still the dominant one, is even higher. Henceforth, it is aimed through this chapter to direct the attention to evaluating the existing methodologies of teaching at HE level and develop a critical understanding of interaction in especially a foreign language classroom context. This chapter also reviews the importance and the peculiarities of interactive teaching, and tries to establish a relationship between quality of university academic teaching and interactive methodologies. Initiatives and models to incorporate interactive teaching are also reviewed focusing mainly on all aspects of the teaching and learning process.

**2.1. Overview on Current Higher Education Teaching Methodologies**

The 21st century academia brought to higher education major methodological changes. There are certain factors which drive these changes. Increasing student numbers, demand for life-long learning, internationalization of the curriculum, research-informed teaching, quality assurance, and the impact of technology are deemed critical in the changing nature of the teaching methodologies adopted in higher education (Butcher, et al. 2006). Adjusting expectations to fit the challenges that each factor may cause can, to a great extent, help raise the quality of students achievements and learning.

Therefore, the university, as the other levels of education, witnessed many changes with respect especially to the development of different pedagogical approaches across disciplines. Continuous evaluations of emerging pedagogies significantly lead to the development of education quality. Academics actively assess the usefulness and utility of existing pedagogies in order to reshape and redesign classes and programs and to include more student engagement. Describing the transition that is still taking place at higher education, Bass, (2012) said:

> Higher education was in a powerful transition, moving from an instructional paradigm to a learning paradigm—from offering information to designing learning experiences, from thinking about inputs to focusing on outputs, from being an aggregation of separate activities to becoming an integrated design. (p. 24)

According to Trigwell and Prosser (1996, 2004), two general approaches to teaching can be identified throughout the history of teaching methodologies: the Information Transmission/Teacher-Focused (ITTF) approach and The Conceptual Change/Student-Focused (CCSF) approach. In the former approach the main focus is on transferring information without much interaction with students. However, in the latter approach, all emphasis is put on: (1) students' prior knowledge, (2) developing students' new knowledge, and (3) supporting students' active learning and build-up of interaction skills.

Indeed, the demand for education quality directs "…attention to students' education as a main product that is expected from education quality system" (Shirani Bidabadi et al. 2016, p171). Higher education pedagogies changed from being "knowledge-based and serving facts" to "learning-based and active and interactive participation" (Ciric, 2016, p.77-78). That is, a shift from the ITTF approach to CCSF approach features modern higher education. As such, higher

education pedagogy progressively abandoned many teacher based approaches and replaced them with student-centred ones. So, higher education teaching is no longer about just grasping subject matter content knowledge and knowing how to present it, but also about scholarly searching for different and creative ways to involve students in their learning and assessment processes (Saroyan & Amundsen, 2004). Instructional strategies should be thoughtfully chosen to fit different styles of learning and realize course objectives.

The emphasis on deep learning instead of just surface learning also marked the changing higher education landscape. For the improvement of learning, instructors should address higher skills such as critical and creative skills. The teaching model of lectures, term papers, and exams that dominated higher education for centuries fosters among students the habits of just surface learning. Deep learning methodologies instead are developed to illuminate such habits and to enhance life-long learning skills.

Technology has also a lion part in the changes and reforms taking place in higher education sector. Information and Communication Technology (ICT) becomes a critical ingredient in any educational operation. Research on the relationship between technology and different higher education pedagogical aspects is rich and is continuous. Successful and high quality teaching and learning are two important results that most research on the impact of ICT on teaching and learning processes always report. Indeed, the introduction and inclusion of ICT especially to the English language HE classroom has positively influenced students' achievements.

**2.1.1 Effective Teaching Methodologies in Higher Education**. The search for means and ways to foster quality education is continuous and faster than ever before. Within higher

education, teaching methods critically translate the philosophy of the curriculum into practical learning objectives (Regmi, 2012). Hence, national and international competitiveness to form productive individuals urged especially instructors to rethink their teaching methodologies for better functioning of the learning process. Nonetheless, coming up with the most effective teaching approach to adopt in a certain environment is not as easy as one might believe. The nature of the subject, number of students, and facilities available in the classroom are factors that determine the choice of the teaching methodology (Wickramasinghe & Upeksha, 2016). In addition, each specific disciplinary context requires "certain instructional approaches to be validated by university teachers" (Entwistle, 2007, p.1). For Braskamp & Ory (1994) "Effective teaching is the creation of situations in which appropriate learning occurs; shaping those situations is what successful teachers have learned to do effectively" (p.40 cited in Regmi, 2012, p.62). In their turn, Shirani Bidabadi et al. (2016) identified a good teaching method as the one that "helps the students to question their preconceptions, and motivates them to learn, by putting them in a situation in which they come to see themselves as the authors of answers and the agents of the responsibility for change" (p.177). Giving students such responsibility over their learning, though it might look risky, it is agreed that it yields always high quality outcomes (Evans et al, 2015). Jarvis (2002, p.87) (as cited in Regmi, 2012, p.62) argued that effective teaching and learning will take place "when there is flexibility for different forms of knowledge to be engaged with using different methods of teaching and facilitative relationships as appropriate".

Shirani Bidabadi et al. (2016) summarized important features via which a teaching methodology can be considered effective. They stated:

The best ideas for effective teaching include: Teaching methods that focus on the students' activity and task performance rather than just acquisition of facts; opportunities for meaningful personal interaction between the students and teachers; opportunities for collaborative team learning; more authentic methods of assessment that stress task performance in naturalistic situations, preferably including elements of peer and self-assessment; making learning processes more explicit, and encouraging the students to reflect on the way they learn; learning tasks that encourage integration of information and skills from different fields. (p. 177)

Focusing much more on learning, Regmi, (2012) stated:

Effective teaching fulfils four major principles: the integration of learning activity in teaching is important as learners will learn by doing; repetition, generalization, and dissemination are important notions; reinforcement is considered a cardinal motivator for learning; and learning is helped when the objectives and purposes of learning are clear. (p.62)

In spite of the fact that debate on what makes a teaching method effective is still going on, there is at least a certain consensus on common principles that can qualify teaching methods as outstandingly good for achieving better students' achievements. According to the above definitions, actively involving students in their learning process, interactively sharing with them knowledge and reflectively together evaluating progress, are good indicators of the well functioning of any teaching methodology. Henceforth, within each specific environment evaluation of the multiple and diverse relations between the context, the discipline, the

pedagogy, and the learners and teachers should be highly prioritized for improvement to take place (Evans et al., 2015).

      **2.1.2. Creating Significant Learning Environment in Higher Education**. Nowadays, learning in higher education is more than just attending a lecture, taking notes and sitting for a formal exam. The shifting focus from transmission model of teaching to learner-sensitive instruction changes roles in the classroom teaching and learning community (Kumpulainen and Wray, 2002). Teachers as well as students significantly participate in meaning-making and knowledge construction. Through interactional support from the part of the teacher and peers, students jointly share responsibility in leading discussions and raise argumentation, actively solve problems, and collectively develop cognitive, social, emotional skills. Dynamic teaching and learning conversations instead of structured discourse give students everyday-like settings where they naturally develop social learning (ibid, 2002, p. 10)

      Depending on how much students are actively involved in their learning determines three types of learning "passive, active and interactive learning" (Kutbiddinova et al., 2016, p. 6558). Passive learners receive knowledge transferred by the teacher especially in lecture-based teaching class. Students are completely excluded from the knowledge construction and they do not do any task. Active and interactive type of learners, however, share with their teachers and other peers the responsibility of performing pedagogic tasks through academic discussions which permit acquisition of critical, creative, communicative, social, and psychomotor skills.

      Students' retention differs significantly according to the teaching methods used in different settings. The lowest rate of learning is caused by the lecture type of teaching. But it is observed that the more the students are engaged in the learning process the higher the retention rate becomes. This also justifies the effectiveness of using interactive teaching methods (ITMs)

in promoting students' learning of different subjects, hopefully it will help in developing students' abilities in learning the research methodology subject.

## 2.2. The Development of Interactive Classes and Teaching Quality

Since 1950's pedagogies become more centered on the student in the teaching learning process and they aim at particularly making students work on and control their own educational progress (Khusniddin, 2018; Petruta, 2013). The most striking development of student-cantered pedagogies is introducing interactive methods which are, by general agreement, considered effective. Shamsutdinova et al. (2017) believed that "…nowadays interactive methods are one of the most effective and actively developing pedagogical technologies in modern education." (p. 362). In the same vein, Entwistle describeed nowadays higher education teaching and learning said: "Teaching and learning in higher education can be seen as an interactive system that depends on the characteristics of the student, the specific nature of the subject matter, and the whole teaching learning environment" (2007, p.1). Eltanskaya et al. (2017) also stated that "The main methodological innovations today involve the use of interactive teaching methods" (p.100). Moreover, Wickramasinghe and Upeksha clearly linked high quality learning to engaging students and tolerating a dialogue with them on all aspects of their learning process (2016, p. 2). Thus, by rejecting traditional methods, while the teacher is a centre in the learning process, passivity of students in receiving information and disinterest for participation are replaced by modern didactics which cherish more engaging and interactive methods that aim at productively involving students in all aspects of their learning process (building knowledge, acquiring new skills, developing personal attitudes, etc).

**2.2.1. Interactivity and Interactive Teaching Method.** By gleaming at the literature, improving educational achievements and students training at the university requires using

alternative methods and procedures of teaching that promote active learning. So, involving students in the learning process both intellectually and emotionally make them responsible for learning on their own and this necessitates adoption of more effective interactive teaching methods. So what are these interactive teaching methods and what is their significance?

*2.2.1.1. Interactivity.* Interactivity has become a widely discussed topic in academia for its usefulness in reforming students' education especially in the territory level. Kutbiddinova et al., (2016) said that the concept of "interaction" appeared first in sociology and social psychology, and thus, interactive teaching gives training a socio-psychological direction (p. 6559). According to Ponomariova and Vasina (2016) the word interactive was used in Russian didactics since 1990s. In general, the word interactive means that" people work together and have an influence on each other." Eltanskaya et al., 2017, p. 100). In her turn, Huntington (2005, p.28) clarifies that what is considered interactive in teaching and learning falls in the following categories:

1. Techniques—for example, uncompleted handouts which have gaps that students fill in during a lecture, using a quiz in a seminar or asking a supervisee for feedback as to how you are getting on as their supervisor;

2. Methods that are highly interactive and can be used to supplement or replace more traditional learning opportunities such as lectures and seminars—for example, problem-based learning (PBL);

3. Frameworks for learning that are more or less likely to lead the individual to consider their interactions with material presented, work undertaken, people encountered and their responses to their experiences—for example, reflective practice.

*2.2.1.2 Interactive Teaching Methods.* Considering interactive teaching methods (ITM), several terms appear to be associated with it. So sometimes interactive teaching comes to mean all of them. Ciric (2016) referred to concepts that fall under the umbrella term interactive methods as he named the following "team learning, mosaic method, study together method, method of group project, structural approach cooperative map concepts, cooperative lecture notes, problem learning in problem class" (p.79). Murray & Brightman (1996) pointed out that "The terms 'active learning', 'interactive teaching' and 'facilitation' have recently become established in both the theory and practice of higher education. They are often used in opposition to 'passive learning', meaning, in the context of teaching by lectures, the recitation mode." (p.296)

More specifically, "An interactive approach involves interaction in dialogue mode ("inter" - reciprocally, "act" – do, perform) (Giorgdze & Dgebuadze, 2017, p. 545). Accordingly, learning through communicative activities actively involves students in the learning process (Atanasescu &  Dumitru,  2013). In addition, in this model of instruction "teacher-learner" and "learner-learner" interactions dominate the teaching-learning environment. All participants are equally given opportunity to mutually build knowledge and other higher-order cognitive skills. So, "Instead of being subject to impact, the learner interacts, takes an active part in the learning process and does so at his own individual pace." (Ponomariova & Vasina, 2016, p. 8625). Ponomariova &  Vasina (2016) further explained that an interactive teaching "…is based on the teacher-learner and learner-learner paradigms that …include activities, such as learners' interaction with each other, exchange of information, role-playing, joint problem-solving" (p.8621). Ciric, (2016) considered interactive classes as "scientifically based and systematically organized educational work dedicated to attendees of a particular age, differential degree of education at the established conception of teaching plan and program in which methods of

interactive learning are dominantly applied" (p.78). Petruta (2013) has identified interactive teaching methods as "those which favour an interactive learning, namely a learning based on the knowledge, ideas, experiences, principles, and impressions interchange, as well as on attitudes, in order to reach jointly to a certain result" (p. 649). In his definition, he emphasized the fact that teaching and learning process should be based on interactivity that means interchange and sharing between teachers and students of all its aspects.

Therefore, through this model of teaching and learning, "sharing information, receiving feedback, solving together the arising problems, simulating the educational situations, evaluating one's own behaviour and the actions of other participants" (Kutbiddinova et al., 2016, p. 6557) will be guaranteed. However, "It should be remembered that the interactive forms and methods of teaching cannot be universal, and they need to be complemented by the traditional, classical methods" (ibid, 2016, p. 6570). All in all, interactivity plays a critical role in stimulating mutual realization of teaching tasks, educational goals, and mainly effective learning (Ciric, 2016).

**2.2.2 The Difference between Traditional and Interactive Teaching Methods.** Lecturing was always the footprint of teaching at the university in all countries, in many fields of study, and for many centuries. It is ITTF approach that is not favoured in many teaching contexts. This teaching method has proven ineffective and it has been rigidly criticized because it simply excludes students from being part of their learning and it does not ensure that students really cover the material by just being present (Murray& Brightman, 1996). Mocinic (2012) reported "…researches show that direct teaching is efficient in the transfer of knowledge, but is not sufficient for deeper understanding, problem solving, creative work and similar." (p. 98).

However, throughout the history of teaching methodologies at higher education, no methodology comes to completely substitute the other, but the ultimate goal is to address the

limitations of each methodology. So, interactive teaching does not replace lectures, but it helps students to maximize their performance (Kutbiddinova et al., 2016; Ciric, 2016; Lukashevich et al., 2015; Murray& Brightman, 1996). Table (3) elaborately differentiates between the traditional and interactive modes of teaching.

Table 3

*Differences between Traditional and Interactive Models of Classes (Ciric, 2016, p.87)*

| Traditional classes model | Interactive classes |
|---|---|
| • Teacher is the centre<br>• Learning is transferring of knowledge<br>• Studying is equal for all<br>• Learning as individual activity<br>• Uniform types of activities<br>• Limited number of teaching methods<br>• Goals in relation to teacher<br>• Teacher is instructor<br>• Verification of the learned (summative evaluation) | • Student is the centre<br>• Learning is active construction of knowledge<br>• Different styles of learning and individual differences in learning capabilities<br>• Cooperative learning<br>• Different types of activities<br>• Huge number of teaching methods<br>• Goals in relation to attendee, teaching process and problems<br>• Teacher is facilitator<br>• Evaluation is formative |

**2.2.3. The Difference between Interactive and Active Teaching Methods**. Giorgdze and Dgebuadze (2017) clearly distinguished between interactive and active teaching methods (henceforth ITM and ATM) by stating first the similarities and then showing the differences; they said:

> An interactive method can be considered as a modern version of active methods. In contrast to the passive approach, active learning is focused on a closer relationship between learners and a teacher, and students are more active in the learning process. The main difference between active and interactive approach is that, in contrast to active approach, interactive learning involves students' interaction not only with the teacher but with each other as well. (p. 545)

Actually, founded in constructivism, particularly in Vigotsky's (1978) call for interactivity and action in the learning process, ATM and later ITM gave learning a more communicative type of practice (Lombard & Kloppers, 2015). Another difference between ITM and ATM is that ITMs widely use ICT and social network services (Bordovskaia et al., 2016).

## 2.3.3 Significance of Using ITM in the Learning Process

Introducing interactive teaching methods to the higher education environment significantly raised learning quality, reinforced social relations and personal traits, and solves many pedagogical problems. Drawing from the literature on adopting interactive teaching especially in higher education, it is experimentally proved that meaningful learning and better student performance have always to do with interaction among students and interaction between faculty and students (Mannison et al, 1994). By rejecting traditional methods that viewed teaching as "transmission" and learning as "reception" and "procedural" (McGregor, 1990), ITM

are meant to foster higher-order thinking skills and to develop deeper learning (learning inside and outside the classroom) (Saroyan & Amundsen, 2004, p.72). According to the Federal State Higher Educational Standards (as cited in Kutbiddinova et al., 2016) undergraduates require the percentage of 10 to 30%; of interactive teaching in the classroom, and Master Degree students, from 30 to 50% (p. 6569).

Acknowledging the advantages of the ITM, Kutbiddinova et al. (2016) said: "Thanks to interactive methods, the students form the professional competences, develop analytical thinking, mobilize the cognitive powers, an interest in new knowledge is awakened, and the creativity of personality is revealed" (p. 6557). Additionally, Yakovleva & Yakovlev, (2014) strongly admit the significance of interactive methods of teaching as they stated:

Today, we should talk about the use of interactive methods of training, which encourage interest in the profession; promote the efficient acquisition of training material; form patterns of conduct; provide high motivation, strength, knowledge, team spirit and freedom of expression; and most importantly, contribute to the complex competences of future specialists (p. 75).

Indeed, through these methods, students enjoy maximum involvement and full participation in the learning process by influencing and getting influenced and building "mutually supportive relationships" (Eltanskaya et al., 2017, p. 100). Accordingly, thinking critically, analyzing and solving real problems related to students' activity, discussing and evaluating opinions and arriving at informed decisions are skills that effective ITM application in the higher education environment is found to achieve. Therefore, learning becomes more engaging, challenging, and authentic and satisfying (Murray & Brightman, 1996).

Mukhamedyarova and Cotter (2005) in their turn emphasized the societal significance of interactive teaching and they also made it clear that "Interactive methods of teaching represent the spirit of democratization because openness, mutual understanding, willingness to help each other, responsibility, and accountability can help students become active learners as well as active citizens". (p.105 ). In the same vein, Yukhimenko, et al. (2017) stated: " The interactive methods of teaching lead to formation of certain positive personal traits: adequate self-esteem; optimal level of anxiety; high level of self-independence; developing skills of cooperation; ability to work in team" (p.61). Evan et al. (2015) has found s a strong relationship between "identity development and student integration into higher education and wider contexts" (p.6). Henceforth, effective application of interactive methods of teaching can, to a great extent, guarantee "friendly socio-psychological environment" where healthy educational dialogue among students and positive development of cognitive skills and personal traits are highly favoured.

With all these advantages in mind, we do agree with Shamsutdinova et al., (2017, p.364) who argued that interactive learning play a critical role in solving several educational problems through developing communication skills (get rid of language barriers), creating emotional contact between the learners (get rid of stress and anxiety); developing learning skills and intellectual abilities (analysis, synthesis, goal setting, critical thinking, etc). Similarly, Lukashevich et al. (2015) argued that "…implementation of interactive teaching methods allows conducting work with the students more closely, studying the object and means of work more profoundly, and therefore finding new interesting technical solutions for perfecting the existing processes" (p. 125).

In addition to above mentioned benefits of ITMs to the students, they are also beneficial to teachers in many ways. Senthamarai, (2018, P.37) identified the following areas where instructors make the maximum benefits from applying ITM. They include:

1. Flexibility in teaching: Applying training methods that involve two-way communications will enable you to make quick adjustments in process and approaches.

2. Practice makes perfect: Interactive instruction enhances the learning process.

3. Student motivation: Two-way teaching dispels students' passivity, and when more students are engaged, you will have much more fun too.

4. Measuring student accomplishments: teachers making use of interactive styles are better equipped to assess how well students master a given subject material.

## 2.4. Functions of an Interactive Classroom

Dippold (2015, pp. 12-13) identified three functions of an interactive classroom: referential function which communicates curriculum content; social function which maintains social relationships between tutors and students; and an ideational function which helps both tutors and students express their respective identities through discourse.  The referential function is described as assisting both teachers and students build classroom interactive competence (CIC). The latter is developed through attaining pedagogic goals via appropriate interactional tools and interactional space. The second function that is the social function, interactivity in the classroom offers teachers a healthy space to negotiate their relationships and roles. Teachers should pay attention to the social sensitivity of activities designed in their interactive classrooms; for example, giving feedback or nominating or excluding a student in activities based on discussion may cause embarrassment. The last function that is the ideational function is better described as

using interactive strategies that do not threaten the identities and roles of both teachers and students. The interactive teaching permits respect of roles and identities in the classroom.

## 2.5 The Pedagogical Features of ITMs

Any interactive teaching environment should be characterized by certain effective features to be distinguished from other ineffective models in order to bring change to students' lives. Entwistle (2007) insisted that the teaching activities, the available materials, the support provided by tutors, the assignments and the assessment all should act as "an interactive whole" (p. 8). Moreover, from what has been mentioned on interactive teaching, and the studies of (Bordovskaia et al., 2016; Murray &Brightman, 1996; Mannison et al., 1994; Shamsutdinova, et al. 2017; and Kutbiddinova et al., 2016), we can synthesize the following pedagogical features of ITMs:

1. Students participate actively in the academic process, engage themselves in spontaneous and authentic conversations and contribute in the generation of information.

2. Knowledge is presented to students in varied communicative forms.

3. Students work for actual audiences and purposes, not artificial ones and the acquired knowledge is applicable to real conditions.

4. Problem-based activities should vary between collective and group assignments and not individual activity (so large amount of pair and group work).

5. The learning process should be reflective and feedback is necessary at all stages

6.  Cognitive, emotional, social, work-action competencies are the focus of learning (Ciric, 2016).

## 2.6. Types of Interactive Methods

According to teachers' aims and course objectives, teachers have to choose among the following interactive teaching methods (ITMs) the ones that better address their students' needs. Ponomariova &  Vasina  (2016) classified interactive teaching methods as follows:

1. Entertaining methods: role-playing, action games, didactic games, etc.

2.  Non-entertaining methods: discussions, various assignments, analysis and problem-solving, including case studies through brainstorming, aquarium, peer feedback, etc. (Ponomariova et al., 2015).

Kutbiddinova et al., (2016) also mentioned: cooperative learning methods, group discussions, debates, simulation games, case situation analysis, project method, social-psychological training, moderation, computer simulations, and others (p. 6557). Teachers may use more than one of these methods in one session depending on course objectives, students' needs, and classroom management in general. Each method is adopted and adapted by teachers using effective specific strategies.

## 2.7. Interactive Teaching Strategies

The type of interactive teaching method a teacher chooses is determined by certain strategies and techniques. To help students' better acquire a certain content, teachers adopting ITM always think of practical measures to make the process of learning easier. Students are taught to interactively do tasks and practically apply knowledge acquired.  So, teachers should carefully choose activities which are designed around the principal of "…without practical application, students often fail to comprehend the depths of the study material" (Senthamarai, 2018, p.37). Senthamarai emphasised that "By using interactive techniques and strategies, the

students become more engaged in learning, retain more information, thus becoming more satisfied" (2018, p.36). Therefore, to teach students to be active participants in teaching process, more interactive teaching strategies and techniques should be incorporated in all classroom practices (Ciric, 2016,).Among widely spread and popular interactive strategies, we can mention the following:

1. Creative tasks;

2. Games (role-plays, imitations, business and development games);

3. Use of human resources (excursions, inviting experts);

4. Social Projects;

5. Use of new material (interactive lectures, video-audio materials, student in the role of a "teacher", Socratic dialogue, asking questions);

6. Solving tasks (associative maps, brain storming, case analysis). Giorgdze & Dgebuadze  (2017, p. 547).

With this variety of ITM strategies, teachers as well as students are given a fortune of opportunities to contribute to the acquisition of knowledge, development of communication skills, and building healthy social relationships during each educational session they meet. However, it is critical that teachers know and distinguish the features and potential of each strategy for more effective implementation.

**2.8. Conditions for Effective Use of Interactive Teaching Methods**

Yukhimenko (2017) has experimentally found that achieving interactivity among students is a complex task for which some pedagogical conditions should be present for promoting the process of learning. Here they are:

1. Constant student engagement into communication. It is achieved by means of efficient management of the dialogue between students. In this case the management tools are the techniques of indirect influence on the group of students; readdressing of replies and etc.;

2. Role structure flexibility of collaborative activity. It means capturing role positions by students in their group learning activity and possibility for them to move from one position to the other one;

3. Activity of the group interaction participants. In group activities the possibility of an equal individual contribution of each student to a team work is very important: the number of utterances in discussion. It demonstrates students` positions in solving learning problems;

4. Correct distribution of the management duties. New ideas and information may be distorted as a result of unceasing appearance in the process of solving problems. That`s why interaction strategy supposes the distribution of duties among all the participants of group interaction;

5. Effective number of group work participants. Researchers acknowledge the most effective number of students for interactive group work to be 3 or 5.

**2.9. Tips and Tactics for Applying Interactive Teaching**

Murray& Brightman, (1996, p.306) suggested the following tips and tactics to effectively apply ITM:

1. Explain the interactive work. Very briefly state its purpose and criteria for peer review and put this on the overhead projector or board, so that students can see it as they work.

2. Coach students in group skills, talking them through stages of short tasks at first, e.g. allocate roles, divide up tasks, monitor time, complete task (with agenda and timings on overhead projector or board).

3. When students work in pairs, keep changing the pairs, moving people around.

4. In making up student groups combine student choice and lecturer choice, e.g. when students work in fours, they choose a partner and lecturer combines pairs into fours.

5. Form interdisciplinary teams (when possible, for variation) for solving problems.

6. Replace abstract and/or academic questions with focused and/or topical questions, e.g. instead of "What are the pros and cons of the various road building projects in Glasgow?" ask "Should we build another Kingston Bridge across the River Clyde?" Structure debate, within technical terms of reference, for both answers to this question.

7. Move around the room as the students work, encouraging them and reminding them of the task and its stages.

8. Involve students in decisions about teaching methods.

9. Construct a progression of tasks: from unstructured talk, to mini-presentations; from comparing answers to analyzing errors; from working in mixed teams to working out a collective answer and/or compromise; from writing one-word answers and calculations to sentences which articulate their thinking and explain their answer.

10. Change the learning tasks. Modify assignments and assessments. Introduce tasks which require 'deep' or 'comprehension'-not 'surface' or 'operation' approaches by the students.

**2.10. Group Work Strategies for Successful Interactive Learning**

Organizing the class work on the basis of interactive activities necessitates knowledge of group work strategies for harmonious and successful teaching and learning. Understanding how peers should work collaboratively in an interactive class also helps avoid possible obstacles that may hinder learning. Nonetheless, Huntington (2005) pointed out that "Managing interactions in groups is more complex as there are many different layers to communication, interaction and action" (p.32). So, it is necessary to manage cohesion among group members and supervise the completion of tasks. In their turn, Yukhimenko, et al. (2017) suggested the following tips for effective collaborative interaction in peer groups:

1. Group mates should listen to each other by making eye contact and nodding, saying such things as "What do you think?" or "I like that idea". Expressions such as these allow students to participate in group discussions effectively;

2. Instructors should tutor groups and provide teaching assistance. Coach groups help and encourage the quieter students to speak and participate.

   (Yukhimenko, et al., 2017, p. 61)

In addition, to succeed in integrating interactive teaching, Huntington (2005) recommended that "Sharing theories and models with students, as part of the introduction of interactive approaches, can be very useful as it facilitates the development of a shared sense of meaning and purpose" (p.30).

**2.11 Interactive Teaching and EFL Learning**

The task of selecting an appropriate teaching method is an important decision especially in teaching EFL. In the history of EFL teaching methodology, different and various methods were under experiment for the purpose of doing significant learning. Starting from the grammar

translation methods (GTM) to communicative language teaching (CLT) and later computer assisted language learning (CALL), EFL pedagogy moved toward more student-centred approaches. Both CLT and CALL are extensively based on adopting ITM. This justifies their philosophies which translator their principle of involving students in the learning process. Indeed, interactivity is in the core of all foreign language learning especially EFL.

However, much of the work on interactivity in a foreign language class has been focused mainly on studying middle and high school contexts and not the higher education one. However, some trace can be still found in contexts where English is taught for specific purposes. For example, Eltanskaya et al., (2017)  found that the use of interactive methods in teaching a foreign language "to economists helps to organize an active interaction of all participants of the communication process which results in the exchange of professional information in a foreign language and the acquisition of professional qualities and practical skills of business communication"(p. 100). Thus, with all the above mentioned features of ITMs, students actively and interactively deeply comprehend the study material, emotionally challenge language barriers, and enjoy working in an interesting and exciting learning environment (Santhi et al., 2017).

**2.11.1 The Role of the Teacher in an Interactive Class.** Adapting instructors' roles to different types of teaching approaches is critical to its success. More recent approaches to teaching are student-centred and they emphasize cooperation and engagement of the student in the learning process. Thus, the instructor should move from being the only participant to a partial one. In an interactive learning environment "instructors should initiate, encourage, and support student ownership of the learning process" (Bell, 2014, p. 4). Referring to university teachers, Ciric, (2016) said "in interactive classes university teacher is the leader who creates suitable scio-emotional climate and academic and pedagogical atmosphere in order to accomplish goals of

interactive learning and justify purpose and functionality of high education" (p.79). This requires teachers to design interactive activities and assignments which compose interactive lessons and they are also expected to choose appropriate interactive strategies to execute them in the classroom (Giorgdze & Dgebuadze, 2017; Nurutdinovaa, 2016; Khusniddin, 2018; Yakovleva & Yakovlev, 2014). In other words, "teacher's activity gives way to the activity of students, and the task of the teacher is to create conditions for the students' initiative" (Kutbiddinova et al., 2016, p.6560). Hence, teachers should design group work activities that trigger reflection and feedback for successful active involvement.  In sum, in an interactive class, the teacher becomes a manager, a coordinator, a facilitator, and an organizer of the educational process.

2.11.2 The Role of the Students in an Interactive Class. Effective application of any type of ITM requires changing students' thinking about learning. Students may have the habit of just attending lectures, taking notes, and sitting for exams or writing papers; and changing them to work in groups, brainstorm, discuss, criticize, and actively produce knowledge and share it with others is not an easy mission. However, if teachers act their roles in this mode of teaching, students will be aware of their roles in this new environment. Ciric (2016) pointed out:

> It is expected from students in interactive classes to increase personal responsibility in accomplishing educational goals, increased necessity for personal organization and self-motivation and increase of expected results regarding quantity and quality of adopted knowledge, development of skills and development of competencies. (p.88)

Readiness from the part of the students to cooperate with the teacher and their classmates, of course, with teachers' motivation and encouragements, successful employment of ITM will be ensured (Paolini, 2015, Shamsutdinova et al. 2017). So, a kind of more sophisticated type of

participation and attention are required from the part of the students to practically arrive at high quality learning. Indeed, students will not view their teachers as "knowledge-giving authority but instead proudly presented their own ideas and also questioned the assumptions presented by the teacher" (Kumpulainen & Wray, 2002, p. 14). However, though it is known that in a class students may be passive or active; this mixture of students ensures that interactive methods can find their way in making from higher education classes models of successful experiences.

        **2.11.3 Planning an Interactive Lesson**. Murray & Brightman, (1996) consider the following elements critical in designing any interactive session: Content, preparation, syllabus, techniques and aims.  Figure 3 describes better each element (p.302)

Subject matter

'Soft' learning issues

❖ Aims

Factual information
Social/discursive skills

Hard information

Who is the audience?

Student presentations

Background reading

How is this aim, or these aims, best achieved?

❖ Preparation

What is the lecturer
committed to? What are the
students being committed
to?

What can the students do on
their own?

❖ Techniques

Traditional lecture
Lecture with 'thinking breaks' -
buzz groups, questioning, etc

How long is there to deliver
the lecture?

What is the audience's likely level of
knowledge on the subject of the
lecture?

How large is the group?

❖ Content

❖ Syllabus

How does this piece of teaching fit
in with the rest of the course?

*Figure 3* Planning a Session- The Process Not The Content (Murray& Brightman, 1996, p.302)

Murray& Brightman (1996, p.302) suggested a practical model of an interactive lecture of 2 hours period. Breaking the lecture into very small stages is his strategy. Lecturing for 20 minutes is very enough to introduce the material because students are expected to have read

about the topic and also relevant to students' lives. The second strategy is alternating presentation by the lecturer and discussion by the students, 3 minutes is allocated for periods of student discussion. Combining group work, open discussion of the task, lecturer's input and case study strategies makes interactive teaching very successful. The teacher has to allow flexibility for increased time for students' discussions, especially when students discuss their experience in the specific context of the case study.

**2.12. Potential Limitations and Difficulties Encountered in Implementing ITM**

As any other methods, the phase of ITM implementation could cause some hardship for teachers as well as students especially in an Algerian classroom. Given the fact that adopting interactive methods require certain conditions, it is obvious that applying them especially in a context where one or more conditions are not available may cause some kind of difficulty especially to the instructor, but as it has been mentioned earlier the results are often rewarding and worth the effort. The problem of organization of the teacher-student interaction may arise at the beginning of the application. The introduction of ITM may even cause chaos in the learning process because roles are still not clearly recognized by the participants, or because the instructor does not fully describe the method to the students.  In fact, even if the method is well understood, lack of interest and motivation to cooperate may not make the learning functions well. Teachers as well as students should be ready to go through an experience of learning in an interactive environment. Mocinic (2012) pointed out that interactive teaching drastically changes educational process "which can cause negative reaction of those students who consider that professors should give lectures and not make them learn on their own." (p.103)

However, the conditions and features of ITM mentioned above are very helpful for anyone who wants to genuinely develop the teaching of any subject. Difficulties can also arise

when teachers do not vary the use of interactive teaching strategies. Students easily lack interest in a subject when teachers keep using the same method of teaching. Thus, varying the use of interactive teaching strategies permits achieving various and different learning objectives and makes students interested and motivated to learn the subject matter. Since interactive teaching is more time consuming; it takes more to plan a lecture. To solve this problem, Murray& Brightman, (1996) suggested "the 'holiday rule: for a successful holiday, 'halve your packing and double your spending money; for successful interactive lectures, halve your material and double the time" (p.302). All in all, one should not expect interactive teaching to work well for the first time; and it requires more time, effort and support to achieve successful results.

As any innovation in education, perfectionism is sought but limitations cannot be avoided. According to Lombard and Kloppers (2015, p.4), several limitations of ITMs implementation need to be acknowledged. First, since ITMs heavily depend on group work activities, teachers may not be certain about member roles. In addition, group work skills should be mastered before introducing ITMs which may take some time in order to avoid conflict between group members and differences in member expectation. Moreover, much time and efforts are needed to coordinate teachers and students timetables and meeting times. Last but not least, the workload may not be equally distributed among students and the instructor. So for the experiment described in the methodology part to achieve good results, the researcher should bear in mind all these limitations and find ways to address them.

## 2.13. Assessment and ITM

Considering the type of teaching interactive methods offer, sitting for just formal examinations does not fairly evaluate all students cognitive, communicative, social, and emotional developments. The method of assessment should be also based on interactive tasks

which assess the real skills students have acquired. So varying the ways students are evaluated in a certain course by adopting interactive strategies such as group projects and classroom presentations can to some extent achieve the objectives of interactive pedagogy as a whole.

Interactive mode of teaching is considered effective compared to more traditional ones. Modern didactics acknowledges the advantages of a teaching methodology based on the principle of developing students' creative and critical thinking, discussion, argumentation and communication skills, group-working; and emotional and social courses of conduct. In spite of the complexity of classroom constraints and practices, ITM proves effective in solving many of the pedagogical problems. So, though changing classroom practices and norms by adopting more ITM is a real challenge for both teachers and students, considering the high positive impact of ITM in upgrading all aspects of learning quality does indeed motivate us to adopt it, in this study, in teaching research methodology course to undergraduate EFL students.

**Conclusion**

Encouraging interactivity among students proves effective in the reviewed studies. Along with developing the learning of the content of a subject, students also benefit from improving their communicative competence and social skills. Indeed, learning through a dialogue mode permits the simplification of information transmission among students, and it guarantees full comprehension. Nonetheless, ITM requires understanding of its principles and strategies to ensure better learning.

*Chapter Three: Tutoring at Higher Education: Practical
Considerations*

## Chapter Three: Tutoring at Higher Education: Practical Considerations

**Introduction**

It is practically agreed on that students' perceptions of their learning environment greatly influence how they learn (Prosser and Trigwell, 1999). Hence, changing the learning environment can lead to deeper approaches of learning (Herrmann, 2014). According to Biggs (2003), providing students with a learning environment that requires their active participation can lead to deeper type of learning. Since lectures are very often unable to provide such active environment, they are supported by tutorials (Anderson, 2005).

Using tutoring as a supportive teaching strategy in higher education is well established in literature. Tutoring in higher education is one of the teaching strategies that encourage personalized and individualized learning, and it permits for deep levels of learning (McIntosh et al., 2021). Implementing tutoring in higher education is either a system decision, as in some European and American universities, or it is a teachers' chosen strategy to foster learning  gained from lectures (Ferreira, 2013). Within the broad range of higher education system, to incorporate this form of instruction as a part of the university teaching-learning process proved successful. However, in this study the focus is mainly on tutoring as a personalized teaching method used by teachers, particularly in higher education to enhance students' learning experience. In this section the subtopics reviewed are: the importance of tutorials in higher education, effective tutoring, the roles of the tutors and the tutees, tutoring and students' interactions, and tutorials potential problems of implementation.

## 3.1. Importance of Tutoring at Higher Education

In the Algerian program of English language studies at the universities, courses are either classified as purely lecture-based, tutorial-based (TD) or a mixture of both. The course of research methodology, the focus of this study, was considered before 2020 as only tutorial-based but after this year it becomes based on both lecturing and tutorials. However, as it will be explained in the next chapter, this course was and still is based mainly on lecturing. So, what is the significance of incorporating tutorials in the teaching-learning process?

Whilst tutorials are deemed demanding for teachers, they offer important opportunities for students to learn. In the context of this study, tutorials can be best defined as:

A tutorial is a class of between 5-30 students in which students discuss key topics, concepts and ideas with their tutors. Tutorials are closely linked to assessment and often involve small group discussions and group work. All students are expected to prepare for tutorials and participate actively in class discussions. Tutorials often complement lectures and generally run for 1-2 hours (Unisa, 2012).

As such, the essence of tutoring as a teaching strategy is to work with students, support their learning, and make them develop their academic skills for better understanding of the subject matter. This teaching method offers more practical work, chance to ask questions, opportunity to express points of view, and space for self-instruction. Moreover, a tutorial' tasks focus more on increasing both individual and group motivation, and they show real concern for different areas of learning - cognitive, social, and emotional (Colvin, 2007). In the same vein, Anderson (2005) pointed out that especially group tutoring is a joint activity in which both the tutor and the students focus more on some problematic aspects of a course.

Indeed, tutorials should be student-centered and their main focus should be to develop students' skills and knowledge of a subject matter (Ferreira, 2013). This education experience offers students the opportunity to be in the center of the learning process and enjoy more the role of a knowledge constructor rather than a knowledge receiver. Thus, the tutor should know very well how to run this technique for successful tutorials taking the student at the core of the whole enterprise of teaching.

In contrast to lectures, tutorials target individual students' problems of learning. So, in tutorials students' learning is immediately checked and live and continuous feedback is provided. The tutorial system allows students to learn from each other and hence both formal and informal forms of assessment can be provided. Actually, during a tutoring session, tutees benefit from constant feedback which makes it easy for them to correct courses of action by doing some activities and benefit from another feedback immediately to confirm better comprehension and skill development (ibid, 2013).

Tutors' discussions with students are constructive and they mainly aim at making students develop positive attitudes toward certain content. Chi et al. (2001) clarifies the peculiarity of the role of the tutor and they said: "one main instructional difference between teachers and tutors is that tutors have the opportunity to pursue a given topic or problem until the students have mastered it" (p.472). Thus, in tutoring sessions, the role of the tutor is to guide and advise students especially through difficult curriculum content. Though in some sense the tutor may find himself sometimes lecturing, the problem-based approach should be dominant to guarantee higher quality of the tutorial (Ghosh, 2007; Silen, 2006). In other words, tutorials are more focused compared to lectures and they should address students' weaknesses and support their strengths as far as a certain topic is concerned.

Indeed, tutoring engages students in academic discussions that permit for construction of knowledge and other transferable skills like problem solving and critical thinking. Communication during tutorials also reinforces students' personal traits such as self-confidence and self-esteem which, of course, are the basis of better academic performance. Topping (1996) acknowledges the importance of tutorials especially to students as he said " Pedagogical advantages for the tutee include more active, interactive and participative learning, immediate feedback, swift prompting, lowered anxiety with correspondingly higher self-disclosure, and greater student ownership of the learning process" (Topping, 1996, pp.324-325). He adds that "In addition to immediate cognitive gains, improved retention, greater meta-cognitive awareness and better application of knowledge and skills to new situations have been claimed" (p.325). Thusly, facilitating the process of learning is the ultimate purpose of adopting tutoring in one's teaching.

### 3.2. Small-Group Tutoring

It is one of the five tutoring forms that have been discussed thoroughly by Heron, Welsch, and Goddard (2003) in their review of the tutoring system. The other forms are: class-wide, cross-age, one-on-one, and home-based tutoring. We have purposefully chosen this format because it is the one that can best fit the design of the present study. Small-group tutoring (henceforth SGT) is about dividing students into dyads and they keep working with each other for a certain period of time decided by the tutor. The small-group learning process is facilitated by a working plan specifically designed to fit such type of organization (Dolmans et al., 2002). In this form of tutoring, the focus is not only developing individual skills but also team-working skills. The tutor has to observe the participation of the group member and make sure that all members are as much active as their peers.

### 3.3. Toward Effective Tutoring

Tutorials need to be effective to merit the advantages mentioned above. Literature documented that effective tutoring is a key to students' success (Heron & Harris, 2001). In order to exploit their full potential, tutorials need to fulfill some criteria.

The first important criterion that a tutorial needs to fulfill to be effective is the ability to make students independent and responsible for their learning. Tutoring is not about finding answers to assigned tasks, but it should help the students learn ways and strategies to help them go beyond mere solution finding to learning on finding solution to similar tasks (Chi et al., 2001). Simply put, the core of a tutoring session is to teach tutees not find a fish but skills of fishing.

Effective tutoring is also the one which encourages students' questing skill. The tutor should not answer directly students' question but he should ask another question that can guide students' through finding an answer on their own (Socratic method). As such, tutoring should encourage process-oriented learning not answer-oriented learning (Ferreira, 2013). In other words, the aim of tutoring is to guide students through steps of self-construction of an understanding of a problematic area in a certain subject matter. In this regard, Chi et al. (2001) said that constructive learning is about "… making inferences, elaborating the material by adding details, and integrating materials" (p.477). Actually, it is through a series of tutor-tutees questioning that a tutorial functions properly toward achieving process-oriented learning (Schmidt and Moust, 2000). One of the ways that help the tutor through process-oriented teaching is to guide students break the task into smaller parts and work on each part to construct the whole answer. In this way, the tutees can better determine their struggling point exactly and find the appropriate solution.

Another aspect of effective tutorials is that they are designed in a way that does not solve problems but teach lifelong skills (Falchikov, 2001). Critical thinking and problem-solving skills are considered very important for successful tutees. Academic tasks provided in a tutoring session should help students develop these skills. It is agreed that tutors who want to be effective have increased workload, but good results are expressed in their tutees' development of these skills.

Tutoring tasks should be well designed to develop tutees learning process. In fact, no study was found in literature to focus on how tutorial tasks should be structured. However, it is obvious that considering objectives of a tutorial and the nature of the tutoring system, tasks should be structured according to Bloom's Taxonomy which allows for the sixth cognitive levels of development.

### 3.4. Tutoring and Students' Interactions

Since in effective tutorials, group and class discussion are the main vehicles of learning, students are expected to be highly engaging and interactive in the learning process. Topping (2000) said "Tutoring can be defined as people … helping and supporting the learning of others in an interactive, purposeful, and systematic way" (p. 3). Accordingly, tutors should provide tutees with positive environment in which they can both ask and discuss in a systematic way some academic work. In addition, in group tutoring, tutors should also help tutees interact with each other in a way that permits full engagement of all members and create a genuine learning environment (Cox, 2000). Being active during tutorials requires interactions with both the tutor and the tutees, so participation requires preparation by tutees and a plan of action by the tutor. Before any tutorial, knowledge of how the tutorial session will take place is important for making students ready for the work waiting for them to accomplish inside the classroom. More

importantly, acknowledging students' collaboration during each tutorial encourages them to continue preparing for the next tutorials and encourage other students to engage more with their peers and with the tutor.

In fact, all interactions that take place in a tutoring session are significant in achieving the planed objectives. Preparing interesting tasks and carefully guiding students' interactions help both the tutor and the tutees achieve more learning outcomes. The tutor should make students use different interactive strategies to do tutorial tasks. Thus, the major parameters for the success of any tutorial depend on students' and teachers' readiness, wiliness, and motivation to interact with each other in order to retain more knowledge and develop more skills. Interactivity in small group tutoring is crucial in making students active participants responsible for their own and their peers knowledge construction and development. Without such engagement among peers, tutorials may lose a critical aspect of the tutoring system that is cooperative learning which as a learning strategy always proved successful (Rhoden & Dowling 2006). Emphasis should be made on guided interaction among tutees and with the tutor because it is observed that during a tutoring session tutees may raise discussions which do not help achieve the objectives of the tutorial; tutors should help lead students' interaction toward specific outcomes.

Tutorials are interactive in nature, and it is of great importance for the tutor to adopt ITM to achieve the real objectives of tutorials. Knowledge of ITM facilitates the role of the tutor in making students cooperative and successful in especially working as a team. The tutor can even talk about the different types of interactive strategies he wants to use to make his tutees more interactive with each other, with the tutor, and with the materials presented during the tutoring session. Indeed, the tutorial system works hand in hand with ITM, explained in the previous section.

## 3.5. The Roles of the Tutors and the Tutees

As it has been mentioned earlier, the tutor is not a lecturer and tutees are not treated as normal students during a lecture session. Both tutors and tutees play completely different roles from those of a teacher and a student. The relationship of a tutor-tutee is also unlike; it is remarked by being friendly, honest, open, constant concern, and caring about tutees' high quality learning (Terrion & Leonard, 2007). The tutor is much of a guide rather than an instructor, and this makes him a co-constructor of knowledge rather than a transmitter of knowledge (Sander et al. 2000). In addition, he guides tutees through acquisition of skills which help develop more knowledge and other sustainable skills like critical thinking and problem solving. In addition, it is critical that the tutor manages to keep the tutorial groups focused on academic tasks to reach the planned objectives (Azer, 2009). As a moderator of the discussions taking place in a tutorial, the tutor should manage to make all tutees as much active as he can; and he should be skillful in maintaining smooth shifts to different points of discussion. In this regard, communicative skills of the tutor are critical determinant of the success of the tutor to be a good moderator. Herrmann (2014) summarized the most significant role a tutor should play as he said " The tutor was expected to correct misunderstandings; explain concepts that were especially difficult; add new perspectives; make sure that all the main points had been covered; structure debates; stop 'off-the-wall' discussion; and provide short summaries of what had been discussed" (p. 9).

Indeed, constant reflections on each tutoring session are of great help to the tutor to effectively use tutoring as a teaching strategy for their classes. Tutees are also a good source of feedback on the quality of the functioning of the tutorials and which can be used to ameliorate tutors' performance rating (Baroffio et al. 2006).

Tutees on their part take on different roles from those of students. More workload and preparation are demanded from the part of tutees for their own success. Tutees are more active and engaged during the whole period of the tutoring session because most of the work is done by them and for them. The learning process is actually tutee-centered and no room is left for tutor dominance on the tutorial time. All the tasks of the tutorial should aim at actively engaging students in cooperatively solving problems related to a subject matter, developing their knowledge, and build on more skills. Thus, it is expected from the tutees to get prepared for being accountable for their knowledge acquisition and skills development. However, tutees need to feel supported to go through all hard work waiting for them during their experiences with tutorials, especially if they are passive during lectures, and their motivation should be considered to guarantee continuity and interest in the academic works covered.

### 3.6. Tutorials Potential Problems of Implementation

In spite of the significant role tutorials play in upgrading both students' subject knowledge and skills, some factors may stand against successful implementation of tutoring best practice procedures. Factors are related to the tutees, the tutor, or the tutoring environment.

Lack of students' preparation and participation was reported to hinder the well functioning of the tutor's plan (Ferreira, 2014). Some students are intrinsically unmotivated to learn; this negatively influences team works, and it minimizes interaction among the tutees. In addition, tutees reluctance to participate does not make the role of the tutor easy to check for weaknesses and give constructive feedback. If the tutees are not cooperative with the tutor, the tutorial strategy ends up a lecture which, of course, makes the teaching-learning process teacher centered.

The tutor may be a cause of the unsuccessful tutorial. Skills of tutorial planning are very important for motivating students to be active participants (Herrmann, 2014). So, sometimes the lack of tutees' participation is not caused by the lack of preparation but the ill planed tutorials. If the tutorial tasks are not interesting or difficult for the students to do and follow, and there is a lack of guidance from the part of the tutor, the whole tutoring session will be a failure. Moreover, because discussion strategy is the backbone of a tutorial, if they are mismanaged and they are not well guided, tutees will gain nothing or very little from them. Tutors' performance during discussions with tutees may negatively influence the process of learning.

**Conclusion**

To conclude this chapter, before deciding to adopt tutoring as a supportive teaching strategy, the tutor should be aware and especially literate about how to effectively implement it within his subject area. Tutorials should afford students opportunities to be motivated, interested, generative, constructive, critical, and most of all, developed both cognitively and emotionally. So, it is important for teachers as well as students to be ready for the extra efforts demanded by this mode of teaching in order to ascertain that they perform their due role.

*Chapter Four: The Status Quo of Undergraduate Research Methodology Pedagogy*

## Chapter Four: The Status Quo of Undergraduate Research Methodology Pedagogy

**Introduction**

Discussion on research methodology teaching (Henceforth RMT) at higher education has always been focused on postgraduates as most of their academic tasks demand higher level of research skills. However, less discussion has been raised as far as undergraduates are concerned. As undergraduate research has recently incorporated within the curriculum (Bologna process meeting in 2003), it is still a fresh area to be explored by researchers. Fortunately studies on undergraduate research teaching, though few, start to take place and they are getting momentum in the research community. From the range of studies that already shape the literature of this domain of research, this chapter reviews research methodology teaching practice at the undergraduate level and it tries to unveil all aspects of the existing research methodology pedagogy. Through this chapter issues relevant to curriculum development, teaching and learning; and assessment of a research methodology course are addressed. Moreover, this chapter discusses students' problems and perspectives as far as research methodology course is concerned. Suggestions of strategies of improvement, as far as research methodology course is concerned, are also critically reviewed from current studies and presented in this chapter.

**4.1 Understanding Research Methodology Pedagogy Culture**

Studies covering pedagogical concepts, principals, and concerns related to the research methods subject, though few, are continuously contributing in the establishment of its "pedagogical culture" (Garner, Wagner, and Kawulich, 2009, p.2). The role of the latter is mainly to inform about evidences of development and innovations of pedagogical approaches as

far as RM course is concerned (Daniel, 2018; Wagner et al., 2011). Knowledge, skills, and processes required for teaching research methods are analyzed in the book of Garner, Wagner, and Kawulich (2009) where they emphasized the importance of the general awareness of the research methods pedagogical culture. However, there is still a lack in published sources on both teaching and learning of research methods especially books (Kilburn et al., 2014). So, what is a research methodology pedagogy culture and why is it important to understand it?

**4.1.1 Definitions.** Because research methodology pedagogy culture is a brand-new concept, few definitions can be found in the literature. However, one can also rely on the meaning of mainly "pedagogy", and "research methodology", to build a general understanding of the pedagogy of research methodology. Definitions of these terms are also justified by the need to understand the pedagogy of research methods as Nind et al., (2015) puts it "…while [pedagogy]is an elusive concept, grasping it allows for stronger engagement with what matters in the competent application of research methods" (p.457)

*4.1.1.1 Pedagogy*. It has a long and complex history. Thus, it is widely defined and it is fully covered by literature in many disciplines. Since research methodology is relatively a new discipline of inquiry, our focus is on the recent meanings of pedagogy. We are not going to trace back its history or etymology. Some definitions have been identified that can help us primarily understand research methodology pedagogy.

Here are some dictionary definitions:

According to Merriam Webster dictionary, pedagogy is defined as **"**The art, science, or profession of teaching especially."

The New world Encyclopedia defines pedagogy as: "In modern day usage, it is a synonym for "teaching" or education," particularly in scholarly writings."

Another definition is given by Oxford English Dictionary: "The art, occupation, or practice of teaching. Also: the theory or principles of education; a method of teaching based on such a theory."

In their extensive literature review on "Pedagogy, Curriculum, Teaching Practices and Teacher Education in Developing Countries", Westbrook et al. (2013) summarized the new view of pedagogy as understood in recent academia. They cited Bernstein, who viewed pedagogy as "a sustained process whereby somebody(s) acquires new forms or develops existing forms of conduct, knowledge, practice and criteria from somebody(s) or something deemed to be an appropriate provider and evaluator' (Bernstein, 2000, p.78). They also clarified that though teaching and pedagogy may seem and even be used synonymously, Alexander (2001) (cited in Westbrook et al., 2013) has shown that they are different in that "teaching is an act while pedagogy is both act and discourse' (Alexander 2001, p.540). They thought, as we did, that Alexander's definition of the pedagogy concept is most helpful and comprehensive and they paraphrased him writing that:

Pedagogy comprises teachers' ideas, beliefs, attitudes, knowledge and understanding about the curriculum, the teaching and learning process and their students, and which impact on their 'teaching practices', that is, what teachers actually think, do and say in the classroom. Teacher beliefs are contextually based, and [this] definition also encompasses social, cultural and political aspects. (Westbrook et al., 2013, p.7)

In their paper addressing inclusive pedagogy in teaching research methodology, Nind and Lewthwaite (2017) adopted the following definition of pedagogy that we think will also help clarify research methodology pedagogy, they stated that:

…pedagogy is more than technique or method …. [it] instead is marked by the way in which the coming together of the teacher and learner and the production of knowledge is a political process with inherent implications for teaching. (p.2)

From the three dictionary definitions and the elaborate clarifications of Westbrook et al. (2013), and Nind & Lewthwaite (2017), understanding the pedagogy of any discipline depends on perceiving the general scientific picture of the teaching and learning processes. This picture should encompass social, cultural, and political contextualized teachers' conduct, their discipline related professional knowledge, and actual classroom practices, focusing mainly on learners, which are informed by the curriculum, certain theories, values, and attitudes. As such, any academic discussions of the pedagogy of any discipline should incorporate scientific analysis of the status of development of these essential elements.

*4.1.1.2 Research Methodology*. As a discipline, research methodology is concerned "…with the utilization of systematic approaches and procedures to investigate well-defined problems, underpinned by a set of specific epistemological and ontological assumptions" (Daniel, 2018, p.1) and it requires "a combination of theoretical understanding, procedural knowledge and mastery of a range of practical skills" (killburn et al., 2014, p.191). It is worth noting, then, that there is a difference between 'methodology' and 'method' as Cohen et al. (2000) clarifies it by stating that:

By methods, we mean that range of approaches used in educational research to gather data which are to be used as a basis for inference and interpretation, for explanation and prediction… [The] aim of methodology is to help us to understand, in the broadest possible terms, not the products of scientific enquiry but the process itself. (pp. 44–45)

This distinction also allows for better understanding of the scope of the research methodology as subject of learning and it helps unify the naming of this subject throughout this research study as "research methodology" instead of "research methods" which might be heard in other contexts.

As a course taught at higher education, research methodology is a critical subject in both undergraduate and post graduate programs of all disciplines because it "equips students with the essential skills and knowledge needed to solve various problems" (Daniel, 2018, p.1). Research methodology subject is about training "students how to present findings in both oral and written forms using the scientific style and format dictated by each professional discipline" (Ball and Pelco, 2006, p.147). Developing students' research skills, necessary to conduct research tasks, is the most obvious objective of research methodology teaching at the tertiary education, (Riche, 2010). Moreover, Braguglia and Jackson (2012) emphasized the role research methodology learning can play beyond completion of program requirements to be applied in the students' lives. They stated that "research methodology can be applied to daily problems to demand thoughtful solutions (Braguglia and Jackson, 2012, p.348)

*4.1.1.3 Pedagogy Culture*. The concept of pedagogy culture appears to get prominence in the work of Garner et al. (2009). They believed that:

> A fundamental assumption for the development of a pedagogical culture is that there are skills, knowledge and processes required for teaching a subject that are related to, but distinguishable from, expertise in the subject itself. This has long been recognized in a number of traditional disciplines, where a pedagogical culture, manifested in formal organizations and informal networks, conferences and publications, dedicated to teaching, has developed in parallel with the discipline itself.  (p. 2).

Drawing on their work, Wagner et al. (2011) also made the meaning of pedagogical culture simpler to understand by stating that it "… is the exchange of ideas within a climate of systematic debate, investigation and evaluation surrounding all aspects of teaching and learning in the subject" (p.75). Nind et al. (2015) also contributed in clarifying this concept and they believe that understanding pedagogical culture requires understanding the particular pedagogical practices and pedagogical content knowledge relevant to a certain discipline or subject matter.

**4.1.2 Research Methodology Pedagogy Culture Development.** Many of the literature reviews and meta-analysis studies share and focus on achieving one aim that is developing a culture around research methods pedagogy. Research methodology pedagogy culture is defined as "dialogue that can be observed in cross-citation, a developed research literature, networks, forums, debate and robust discourse on the values and practices of research method teaching and learning" (Lewthwaite and Holmes, 2018, p. 5). Lewthwaite and Holmes urged that" for pedagogic culture to thrive, ideas must be shared, debated and subject to empirical research (2018, p.7). In addition to analyzing and categorizing research methodology teaching-related studies, Garner et al., 2009; Earley, 2014; Kilburn et al., 2014, Lewthwaite and Nind, 2016, and Kakupa and Xue, 2019, along with others stressed the idea of building a common culture of the research methodology teaching community of practice.

The whole pedagogical culture on research methodology is not formed as Garner, Wagner, and Kawulich (2009) said from "scratch or *ex nihilo*", "Research methods have been taught for long enough to enable today's teachers to learn something from earlier debates and experiments; and perhaps, to avoid repeating some earlier mistakes" ( Garner, et al., 2009, p.5). Since "Pedagogy is concerned not just with what people do in teaching and learning situations but with what they perceive to be meaningful, important and relevant" (Nind et al., 2015, p. 456),

academics who teach research methods at the tertiary level are the stakeholders who are supposed to be the active participants in the overall formation of such culture. Thus, the research methodology pedagogy culture grows simultaneously with the discipline itself (Garner et al., 2009, p. 2).  In spite of the fact that the teaching of the research methods subject goes back to the turn of the twentieth century (Nind et. al., 2015), there is still a deficiency and shortage in disseminating how research methods are taught and learnt across all disciplines mainly because of the lack of debates and exchange of ideas concerning this subject (Gunn, 2017). Lewthwaite and Holmes (2018) lamented the fact that "at present, teachers of methods cannot draw upon an established pedagogic research literature when developing their methods teaching." (p. 5). Therefore, because of the little and not well documented guidance offered to research methods teachers at different disciplines and levels,  the teaching practice of all of them results in self reflection and trial-and-error approaches (Kilburn, 2014, p.192).

Therefore, it is important for academics to enrich this area of science with their own experiences to enlarge its scope and significance and to shape its academic endeavour especially that universities are emphasizing the significance of training students to conduct research on their own. Lewthwaite and Holmes (2018) argued for "sustained attention to the pedagogies of research methods, through research that seeks to develop and enrich pedagogical culture of this emerging field." (p. 4). In the same vein, Garner, Wagner, and Kawulich (2009) emphasized that:

It is only through the development of a pedagogical culture that excellence in teaching research methods can be encouraged and ensured. It is essential for those of us engaged in this field to work together to establish such a culture, to ensure that our collective work develops into an academic and pedagogical undertaking of a high standard. (p.4)

Indeed, research methodology teachers can bring breadth of perspective by being part of this culture and investigating their own teaching for creating interesting and authentic learning experiences for their students. For successful teaching of the research methodology course, "…teachers need to be well versed in the pedagogy of their discipline and in its scholarship" (Elton, 2001, p.53, cited in Wagner, Garner, and Kawulich, 2011, p 83). As such, a genuine pedagogical dialogue among researchers, teachers, and students as far as research methods subject is concerned should be highly cultivated and encouraged by policy makers in order to move the research methodology education forward. Hopefully this study will critically enrich this pedagogic dialogue and promote research methodology pedagogy culture.

**4.2 Introducing Research Methodology at Undergraduate Level**

One of the recent reformations that revolutionized higher education is the incorporation of the teaching of research methodology in the programs of all disciplines. Undergraduates along with other degrees also benefited from this reformation, and they can start their scientific research journey in an earlier stage in their academic life. In fact, introducing research methodology at this sensitive firs stage poses so many challenges that teachers should address for successful teaching pedagogy of this course. Thus, more understanding of the literature built around undergraduate research methodology pedagogy is critically demanded.

**4.2.1. Understanding Undergraduate Research.** Understanding the rationale behind including research methodology as an independent course in itself for many disciplines and university degree programs depends so far on drawing a clear image of what undergraduate research may mean in especially nowadays territory education. Hence, developing undergraduate research methodology pedagogical culture is even more recommended. Undergraduate research is "increasingly becoming an essential element of education and training within institutions of

higher education" (Garner, Wagner, and Kawulich, 2009, p 217). Research skills are recommended to be taught as requirement for Bachelor's degree, undergraduate level, (Ryan, et al., 2013). Actually, the concept of undergraduate research dates back to the first experience of conducting research by undergraduate students at American universities in the mid 20th century; however, until recently that it gains wide scope and coverage in all disciplines and universities (Jackson et al., 2001 in Garner et al. 2009). According to the Council on Undergraduate Research (CUR), undergraduate research is defined as "an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline" (cited in Sengupta, 20019, p. 4). Simply put, "Undergraduate research was defined as any teaching and learning activity in which undergraduate students are actively engaged with the research content, process or problems of their discipline (Imafuku et al.  2015, p. 47). Linking research with autonomous learning, Brew (2013) believed that "Undergraduate research is a student-focused way of bringing research and teaching together. Through it, students can contribute to the academic project of the university." (p.604)

Undergraduate research may take many forms because it "arises from different areas of the university, different discourses and practices and different motivations" (Brew, 2013, p. 605). Brew argued that both problem-based learning and inquiry-based learning (PBL and IBL) approaches were adopted to inform many disciplines in building whole curricula pedagogies for entire degree programs and focus learning mainly on the task of research. Engaging students in different ways of investigation was the main objective of both approaches and also pedagogies that adopt one of them alongside other pedagogical practices such as lectures, tutorials, etc. These pedagogies are supported by the constructivist educational theory which "places student

inquiry at centre stage and in which all learning tasks, assessments, resources and guidance are designed to support the inquiry process (Levy and Petrulis, 2012, p.87)

What is important about research-based learning is that "…the wide variety of ways in which research can be experienced can contribute to student learning" (Brew, 2013, p. 606). Moreover, Brew (2012) argued that the links between research and teaching (teaching-research nexus) are strengthened in pedagogies that acknowledge the benefits of adopting inquiry-based learning approaches to curricula design. She strongly argued for "…the importance of undergraduate research as a way of radically transforming students' higher education experiences and ultimately higher education itself" (Brew, 2013, p. 609).

Because undergraduate research is accepted field of scientific inquiry (Daniel et al., 2017), issues such as undergraduate research experiences, ways to enhance research skills and broaden participation in undergraduate research, motivating students to engage in it; developing an undergraduate research culture and disseminating  undergraduate research, were discussed in literature (Brew, 2013). However, there is still room to thoroughly discuss especially how research skills are developed among undergraduates.

**4.2.2 Reasons behind the Inclusion of RM in Undergraduate Programs.** The course of research methodology is a means for having students trained in the basic skills necessary for scholarly activity in their fields of study and in their areas of work in the future. There is a strong agreement among scholars that the inclusion of RM at the undergraduate level academic programs all over the world, positively leads students to successfully fulfil many tasks and build various skills. It is included in the undergraduate curriculum mainly to improve students' general skills of inquiry in order to understand and conduct research in other courses and after college (teaching-research nexus) (see, Brew, 2006, 2012, 2013; Schutt et al., 1984; Nind, et. al., 2015;

Walsh & Weiser, 2015). Leone & Maurer-Starks (2007) strongly argued for including RM in undergraduate curricula because this "…allows students to gain the knowledge and skills to learn the research process, not to conduct it per se, but rather to use research to bridge the gap between knowledge and critical decision-making" (p.63).

Mathur et al. (2019) recommended research directed educational programs for both the undergraduate and graduate levels and he emphasized earlier exposure to research. Mastering research skills at this level prepares students to both critically consume research (critically read and analyze research studies in their fields of study) and originally produce research projects (Bell, 2014, p.2). In their turn, Ball and Pelco (2006) justified the inclusion of RM courses at the undergraduate level in two points: to prepare students for their future original studies and to make informed decision for professional development. For both Sengupta (2019) and Gunn (2017) early exposure to basic research is essential for students to apply critical thinking to grasp the academic content of other subjects in their curriculum. For them systematic research teaching at the undergraduate level will influence students later in their careers to even build "research-intensive" academic trajectories. In the same vein, Walsh & Weiser (2015), Lombard & Kloppers (2015) and Taraban & Logue (2012)  argued that the more the students get involved in scholarly communities the more they understand the research methodology enterprise and the better development of their problem solving and critical thinking skills, communication competencies, and social traits.

Brew (2006, 2013) elaborately explained and classified gains students get from being enrolled in RMC into two categories: (1) epistemological which include: knowledge production and dissemination, critical evaluation of existing knowledge and dealing with unforeseen problems and challenges and (2) ontological which cover changes  at the level of  students'

personal and professional capabilities and their self-perceptions (p. 604). Moreover, undergraduate research experiences offer students opportunities to be successful in their whole disciplines programs (not only in this course) at this level and beyond (Lombard and Kloppers, 2015). More importantly, "Research activity is considered one of the high-impact educational practices in that the vital skills and attitude for lifelong learners can be cultivated through inquiry" (Imafuku, et al. 2015, p.47). All in all, undergraduate RMCs can be seen as "a means of reform" of the higher education pedagogy (Sengupta, 2019), and research methods teaching is an essential element for all undergraduate programs for the above significant mixed reasons.

**4.2.3. Learning Research through a Research Methodology Course.** Though undergraduate research is not confined to the study of research methodology, all disciplines that advocate adopting any of sort of research based teaching and learning should teach research skills. That is why our focus in this study is particularly on undergraduate research taking place under the requirements of the research methodology course taught to undergraduate students. Hence, curricula pedagogies based on research as the main teaching and learning approach are in need to develop explicit research knowledge and skills and the straightforward way is through an elaborated research methodology course.

**4.2.4 Research Methodology as Course in the EFL Curriculum**. The need for developing students' researcher identities is one of the most important goals of the 21st century education. To respond to this call, developing research skills is highly recommended by higher education curricula of all disciplines (scientific, social, and humane sciences) (Evans, 2018). Indeed, studying at the university requires much knowledge of research in the field and also knowledge of how it should be conducted.

In Algeria, research skills are taught to EFL students as soon as they join the university. In addition to implicit research skills instructions in the various modules offered by this program, RM course explicitly trains students to both consume and produce research in the English as foreign language field of study. RM subject becomes a mandatory module in the EFL curriculum for all degree programs (undergraduate, graduate, and postgraduate) after the reforms of 2005 and changing the educational system of this major to the LMD system (Riche, 2010). The latter emphasized the assurance of high quality research methodology training to all students and especially to undergraduate ones. In the EFL curriculum this module is considered essential ' building block' for many courses and it assists other instructors of other modules, for example when they assign their students research projects as assessment activity or even to lead their students to further reading about certain topics.

For EFL students, undergraduates or postgraduates, methodology is considered as an independent pedagogic unit in their curriculum. The content of the course is covered in six semesters of the bachelor degree and four semesters of the two levels of the master degree. The course is assessed for all levels by continuous evaluation and most of the teachers prefer to assign students small project works. This implies that it is considered a critical course in the English language studies program. It is aimed through this course to develop students' research skills like documentation and referencing, note taking, academic writing, etc. in order to handle their research tasks. Moreover, this course offers students the opportunity to learn the different steps of research process such as framing research questions, designing a study, gathering data and analyzing and presenting the findings. The overall aim is not only to produce consumers of research but also producers of research.

It is worth noting, however, that in spite of the fact that syllabus designers were right to incorporate research methodology as a fundamental unit, they indicated neither the type of the content that should be covered nor the ways and means by which it should be assessed and graded (Riche, 2010).

## 4.3 Undergraduate Research Methodology Learning and Teaching

The whole enterprise of the teaching of the research methodology across disciplines and levels motivates an increasing body of literature discussing major elements in its pedagogy. As it is mentioned earlier, because of the many complaints of how to teach, what to teach and with what strategies, along with other issues (Garner et al., 2009; Wagner et al., 2011; Rayan, 2013; Nind and Lewthwaite, 2017, etc.), theoretical investigation of research on the pedagogy of the research methodology informed the coming sub elements which will try to theoretically answer these questions on the light of these studies.

**4.3.1. General Goals of a Research Methods Course.** The content of an undergraduate RMC should be informed by certain goals and objectives. Kilburn et al. (2014 p.197) elaborately identified three complementary and inter-related pedagogical goals:

1. The first goal sought to make the research process visible by actively engaging students in the aspects of methods at hand;

2. The second sought to facilitate learning through the experience of conducting research;

3. And the third sought to encourage critical reflection on research practice.

Accordingly, students will learn to scientifically conduct and present research findings both orally and in written forms (Ball and Pelco, 2006; Janda, 2001) and they will develop

critical understanding of the methodological approaches available in their disciplines (Zimbardi and Myatt, 2014). In the same vein, Barraket (2005) (cited in Earley 2014, p. 247) said that "the primary learning objectives… are to develop students' critical and reflective thinking and practical skills in designing, implementing, or managing empirical research" (p. 67). Lei (2010) specified the goal of the first course in research methodology as he stated that "the purpose of an introductory research methodology course is for students to become familiar with research mainly at "how-to" skills and application level" (p.236). All in all, RMC content should be focused on achieving the general aim that is "to engage students directly in research activity" (Wagner, 2011, p.2).

    **4.3.2 Specific Skills Covered by RMC Content**. Garner et al. (2009) clearly identified the following skills that can be learnt from RMC content:

-Read, synthesize and evaluate the research literature,

-Formulate a research question and, where relevant, associated hypotheses,

       - Decide what data are relevant to answering the research question,

       - Identify a study population, from whom data can be gathered,

       - Select one or more appropriate methods for gathering data,

       - Apply the method(s),

       - Systematize the findings,

       - Analyze and draw relevant conclusions from the findings. (p.82)

    **4.3.3 Discussion on Content of a Research Methods Course.** Among the queries of teachers of research methodology is what to teach in this course. In fact there is no agreement as how to divide the content of the research methodology course on the three academic levels and

what to teach at the undergraduate one. Lewthwaite and Nind (2016) argued that "Nationally and internationally there are no agreed curricula; methods content is dynamic" (p. 413). With the aim to develop students' skills to both think about research and do research, Brewer (1997) believes that:

> The crucial methodology courses should cover experimental, correlational, and case study techniques of research, and they should involve firsthand data collection, analysis, and interpretation. Methodology courses should cover statistics, research design, and psychometric methods, and they should be prerequisites for some of the content courses
>
> (p.439 cited in Garner et al., 2009)

The above mentioned topics should be practiced in a number of different kinds of activities that allow for better understanding and successful application of theory. Actually, undergraduates are especially in need to be focused on actual research than just on theoretical methodology issues (Stone, 2001).

MacInnes (2012, p.2) (cited in Kilburn et al., 2014) complained that most of the undergraduate methodology learning involves" mastering a limited range of technical skills largely divorced from the context in which those skills may be applied". It is essential to connect students' research perspectives with the context of their studies, for example EFL research, when designing research curricula so that they recognize the significance of acquiring research methodology knowledge in their learning of their disciplines.

Garner et al. (2009, p. 63) have summarized three main views as far as what the research methods course should incorporate. According to these views a research methodology course should include the following general topics: (1) predominantly or solely quantitative methods; (2) predominantly or solely qualitative methods, (3) a systematic combination of the two. However,

many teachers of research methods courses may assume (consciously or unconsciously) one methodological approach, which determines what students are taught. Influenced by views on research, there are teachers who may favour quantitative approach on the qualitative or the other way round and confine their RMT to only teaching skills and strategies that develop one research approach. This will limit students' knowledge of the range of the research paradigms and thus methods that can help them conduct their own research projects. Indeed, the content of what to teach in an undergraduate RMC is always one of the most challenging concerns for teachers of this course.

**4.3.4 The Type of Activities Required in RMC.** The models of teaching chosen by the teacher in addition to the choice of teaching strategies determine to a great extent classroom activities. Creating learning situations through designing research tasks that are relevant to students' field of study is also an important factor in realizing successful methodology pedagogy. Grundy and McGinn (cited in Garner et al. 2009, p.202) urged that the activities should be authentic as they can provide students with opportunities to participate in the research process.

With his forty years of RM teaching (RMT) experience, Janda (2001) came up with some general principles that will make teaching and learning of such subject more enjoyable. The most important of all is to link research techniques to content topics from the whole program, to assign students actual research projects, and to make them aware that their first attempt in research may not yield good results but they will learn so much from this experience. Indeed, "By working together on research tasks, individuals learn research skills and construct their identities as researchers" (Grundy and McGinn in Garner et al. 2009, p.196). Thus, activities adopted by teachers in a RMC should reflect learning goals, objectives, skills aimed for in the syllabus.

Bell (2014) claimed that students intrinsically actively engage in activities when tasks present some logical reasoning to do so. In other words, classroom assignments, presented for instance via workshops, offer active participation especially when they are meaningful and directly relate to students' personal interests.

**4.3.5 Instructors' Academic Efforts for Better RMT.** Most universities hire discipline-related teachers (not special methodologists) to be in charge of such courses. Hence, teachers of the RMC can be as Garner et al. 2009 identified either "Early career researchers [who]often display a fresh enthusiasm for research and an inventiveness in their teaching" or "senior academics [who] can bring a depth of wisdom and breadth of perspective that make their research methods classes lively learning experiences for their students" (Garner et al. 2009, p. 3). Between these choices, Students' achievements in this course are mainly determined by tutors who are able to make students accept research as important for their academic development and be passionate to consume and produce research projects of their own.

Because of the lack of a research methodology pedagogy culture, university teachers are challenged and left to many option to plan, design, implement, and evaluate their research methodology syllabi. Evans (2018) reported such paucity in research methodology pedagogy studies as he said: "When instructors search for strategies and pedagogical theories for how to teach research methods effectively, many soon realize that research about teaching research methods in the social sciences is minimal" (Evans 2018, p.42-43). Thus, whoever the teachers in charge of the teaching of this module, novice or seniors, it is essential for them to establish such culture "to ensure that collective work develops into an academic and pedagogical undertaking of a high standard." (Garner et al, 2009, p.4)

Moreover, instructors' attitudes toward research and toward RM course strongly influence their students taking this subject in many ways. Teachers who choose to teach this subject feel more motivated to spend more time and energy to lead students to better achievement and appreciation of the course. Indeed, they "encourage them to learn not only the science of research, but the art of research as well." (Garner et al. 2009, p.110). However, teachers who by no means do not favour the teaching of this course, its instruction can be a real disaster for them and for their students as this category of teachers will not spare any required efforts to teach even as dread subject as RM (Bell, 2014). Passivity or activity of the course depends to a large extent on the teacher and "Teaching research methods using passive, lecture-based approaches has met with limited success and can result in decreased student motivation and interest" (Bell, 2014, p. 2). Hence, it is very important that RM courses are presented in more interactive and engaging teaching methods.

Teachers' researcher-identities play a significant role in the process of learning of research by especially undergraduates who fully depend at this stage on their teachers in building their research repertoire. Hence, instructors significantly influence student learning of this course and they critically shape the classroom environment through their own responsible pedagogical choices (Markle, 2016).  By sharing with their students their personal experiences in doing research, instructors' authentic experiences create a real world of research for the students and allow them to appreciate the role of being a researcher (Tashakkori and Teddlie, 2003).

On the available literature relevant to research methodology instruction, no study has reported any kind of special training apart from that offered to teachers while being students and teachers' self-training via personal means (especially reading text books on research methodology). The lack of training in how to teach research methodology especially to

undergraduates will lead teachers to continue doing the job with less professionalism. Teachers of this course are in real need of pedagogical training to deal with its technicality and difficulty especially that "The academic status of the subject is still not secure in many institutions…"(Garner et al., 2009, p.3) and as such "[it] is evidenced by differing views about who should be given the responsibility of teaching it " (Garner et al., 2009, p.3). Experts in the field can share with novice teachers their teaching experiences and discuss major strengths and weakness.

**4.3.6 Instructional Strategies for Engaging and Interacting in Research Methods course.** Moreover, the teaching style and strategies of this course play an essential role in its success. In fact, teachers whose " teaching approach based solely on a passive text-lecture-exam format runs the risk of driving student motivation and interest even lower"(Ball and Pelco, 2006, p. 147). Garner, Wagner, and Kawulich (2009) insisted that:

> While it is reasonable to assume that new and innovative strategies are available, all too often research methods instructors teach the way they were taught. This approach to teaching preserves the normative paradigm in which the teacher is all knowing and the student is an empty vessel waiting to be filled. (p.120)

> Indeed, to make student appreciate all the stations of the research journey, teachers should actively assist them (Leone & Maurer-Starks, 2007). In addition, teachers should use first hand research experience both to develop and hone learner's skills and to provide insights into the challenge of various research techniques (Kilburn et al. 2014).

However, in recent years, a number of theoretical frameworks have been developed to promote the teaching of research methods. Though they are different in their epistemological

grounds, they have several commonalities. The focus of the frameworks is "praxis" that is enacting and researching knowledge (Roth, 2005). Hammersley (2012, p.2) in Kilburn et all. (2014) stated that:

> The task of teaching research methods … is not the transmission of a body of knowledge, or the drilling of students on the use of techniques, but rather a matter of helping them to build up relevant knowledge and capabilities, and to develop the necessary intellectual virtues.( p.194)

In spite of the paucity of research on research methodology pedagogy, a great deal of literature was devoted to reporting successful teaching strategies adopted by teachers with the purpose of ameliorating the teaching of this course and achieving better results. In these studies, the researchers were always unsatisfied with their own or others' teaching styles and, of course, their students' achievements. Strayhorn (Cited in Garner et al., 2009) presented in his chapter the ineffectiveness of commonly used teaching strategies such as lecture and textbook reading, which are always considered traditional, in methods courses. In his study, he reported that much of the teaching is done through traditional instructional methods where the students take non-participant roles. He concluded by recommending that "our efforts should be geared toward moving theoretical discussions *about* methods to practical applications and *uses* of methods in problem-solving" (p.130). As a result, it is documented that practitioners in the field developed different and various teaching methods and techniques that can help "increase relevance, interest, and attitudes' (Earley, 2014).  Early summaries them as follows: Active learning, Problem-based learning, Cooperative Learning, Service Learning, Learning by doing or experiential learning, Online learning or Technology enhanced learning. The primary conditions of the success of these strategies is that; first, students should show a certain degree of wiliness to be active participants

in their learning; and second, teachers made more efforts to design 'active' or 'interactive' learning environments that would lead to real pedagogical success of this course (Gunn, 2017).

Denhardt (2001) in Gunn (Gunn, 2017, p.7) argues that effective methodology learning involves " a process of mutual sharing, one in which the students and the instructor enter into a relationship that creates the conditions under which appropriate learning and personal development can flourish, both for the student and the teacher" (p. 533).  Thus, it is very significant that a balance between teacher-centred and student-centred activities is achieved within a class.

Healey (2005) suggested the following model of teaching research methods that can help effectively engage students in research and inquiry:

a) Research-led: students role is to attend lectures about the recent research on a certain subject being taught

b) Research-oriented: Students receive direct instruction about research methods and techniques per se.

c) Research-tutored: Students become active in discussing and criticizing content of research in a certain subject area.

d) Research-based: students take their own responsibility to conduct their research projects.
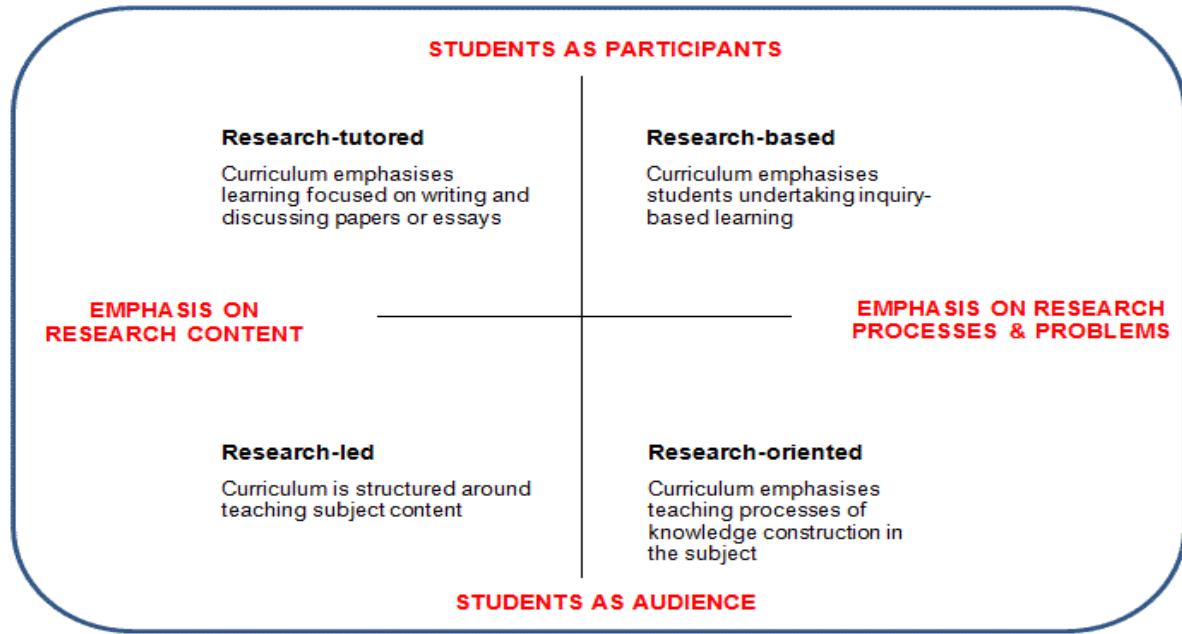
*Figure 4* Healey's Model of RMT (2005)

Baekgaard and Lystbeak (2016) in their turn also suggested a reflexive approach and they have adopted what they called a PROE framework (purpose, research, outcome, and evaluation). This interactive and flexible framework aims at teaching students that the elements of the research process should be interconnected through reflective alignment and adjustment. They build this framework on the assumption that research methods subject is not about applying a set of methods to technical problems but it should be thought as process during which the researcher both align and adjust methodological decisions at different stages of this problem. In other words, the lecturers should teach "higher-order abilities, such as the ability to critically reflect on how to apply methods and techniques in specific research projects" (Baekgaard and Lystbeak, 2016, p.44).

In his turn, Bell (2014) has suggested along with other scholars that adopting intensive course design format in research methodology yields better academic results than long periods of

traditional teaching. He also found that using seminars provide students with opportunities to actively engage in the learning process and they also offer continual assessment for better academic performance.

All in all, the strategies, styles, and frameworks teachers of RM adopt and adapt for their classrooms should not be expository because they will not satisfy students' needs, interest, and their learning achievements (Schutt et al, 1984). Indeed, other strategies are needed that empower students to participate in their own learning process and to make the connection between conceptual and procedural knowledge (O'Connell, 2002).

*4.3.6.1 Teachers' Engagement with Students' Authentic Research Projects.* In their study Hardway and Stroud (2014) found that "An active learning approach, in which students are afforded a range of opportunities to pursue research topics that are personally meaningful, is an effective pedagogical approach even when students enter the course with relatively less positive attitudes toward the process of research" (p. 386). So, by doing research collaboratively with students, teachers present to them actual and authentic research activities which provide opportunities to practice RM course content. Engaging with students in research projects made it easy for the students to act as researchers by collecting, analyzing and reporting data. Hence, concrete learning experiences offered by research project activities can maximise students' gains in terms of research skills development. However, it should be noted that "If research methods are to be taught as an active and engaged processes, then the timeframe within which students are expected to complete their work must be expanded" (Keenan and Fountaine, 2012, p.233). Moreover, the learning environment which is characterised by being interactive and open to discussions and constant feedback can keep students on a productive level. Nguyen and Lam in Garner et al. 2009)

*4.3.6.2 Connecting Students with Researchers and Research Spaces.* Setting a healthy research ground where undergraduates meet with their discipline leading research figures can contribute to amending their attitudes toward research and research methodology per se. Fung (2017) has strongly agreed that teaching research through acquainting students with researchers, and of course their works, of their fields can yield positive results. By this approach, students' knowledge of research is auto formed by their own observation of how research is actually conducted and immediate feedback will be reached. Research practitioners will not only transmit to students priceless years of research experience through sharing narratives but also can offer hands-on and engaging research opportunities which will foster their motivation, interest, and above all, their research knowledge and skills.

**4.3.7 Students' Attitudes toward Research Methodology.** In the literature covering research methodology teaching in general, researchers always report anxiety, fear, and lack of interest among students, undergraduates and postgraduates, taking this subject. As early as 1979, Leming accounted for the difficulty and complexity of the subject matter that created "methods anxiety" and he stressed the fact that prior to the start of the course, students may not come with positive perspectives which will hinder learning. Students, especially undergraduates, are convinced that RM course is irrelevant to their future lives and it is not more than an academic task to fulfil. However, as Wisecup (2016) stated, previous research did not tackle the students' attitudes toward research methodology course per se. In his study, Wisecup (2016) focused mainly on investigating students' attitudes before and after taking a research methods course through analyzing affect, difficulty, interest, and competence factors. In spite of the agreement among many authors that students hold negative attitudes toward RM, Wisecup found that upon completion of this course students' attitudes shift from negative to positive. Their cognitive

abilities were also reported to be prominently developed. Moreover, it was found that thanks to the active and engaging pedagogical approaches teachers adopt and which put research theory in practice, students confidently developed their research skills and raised their interest. As a result, assessment of students' attitudes toward RM subject gives insights on better course design and instructional strategies which could contribute to their positive attitudes formation (Papanastasiou, 2005).

   **4.3.8 Problems and Challenges Experienced in Teaching/Learning RM.** In their analysis of the teaching and learning of RM environments, researchers reported experiences where pictures of complexity, hardship, negativity, are depicted (Evans, 2018; Lombard and kloppers, 2015; Markle, 2016; Nguyen and Lam, 2009). Students are found not to appreciate the skills learnt from this course and they see no relationship between learning research skills and their future career. So, students feel that they are forced to take course and they develop the attitude that RMC is hard to learn. We do agree with Nind and Lewthwaite (2017) who argued that learning research methods is hard because "it places distinctive conceptual, procedural and technical demands upon teachers and learners" (p. 2). Another argument for the hardship of the course is that "Students…often faced with dual task of developing an understanding of abstract research concepts without a requisite foundation of concrete content knowledge in which these abstract notions can be applied successfully" (Hardway & Stroud, 2014, p.381). Indeed, students leaning research methods are often reported to lack experiential learning opportunities and hence struggle with purely abstract research notions and concepts (Parks et al., 2011). As such, they fail to link methodological skills with their academic, personal, and professional goals (Hardway & Stroud, 2014). In short, Wagner et al., (2011) emphasised that because RM teaching is theory

based rather than application based and the passive lecture- format is dominant, RM course becomes intellectually demanding for students.

According to Earley (2014, pp. 245-246), students who undertake a research methods course develop the following general attributes:

1.  They see no relation between the content of the course, their major, and their actual life.

2.  They feel anxious about their learning of this course because of its difficulty.

3.   They are not motivated and uninterested in learning this subject

4.  They hold negative attitudes before and after taking the course

5.  They  hold misconceptions

These identified attributes forced many students not to appreciate the course, not to take the course or achieve low results. As a result, "…poor performance in research methods courses could result in negative mindsets towards the field of educational research as a whole" (Lombard and kloppers, 2015, p. 1)

**4.3.9 Pedagogical Solutions for Effective RM Learning.** Considering students', of the reviewed studies dealing with the RM subject, experience and being a teacher of research methodology for five years, it is highly important for us as practitioners to solve the above issues relevant to RM teaching and learning. To overcome most of the earlier summarized common problems emerged in the teaching and learning of the research methods, changes to practice and pedagogy should be highly considered (Gunn, 2017). Gunn argues that these changes should cover two aspects: "better connections between subject knowledge and research methods teaching" and" embracing a wider range of pedagogical approaches." (2017, p. 5). Wagner, Garner, and Kawulich (2011) suggested that "A well-informed approach to teaching, in whatever

field, relies on a sound understanding of the processes of, and obstacles to, learning. An understanding of students' conceptions of research itself can result in a more carefully targeted pedagogy." (pp. 83-84). Schutt et al. (1984) strongly believed that "…our instructional efforts can be substantially improved by setting explicit course goals and then examining how our teaching strategies help to achieve these goals" (p.236). In their turn, Imafuku, et al. ( 2015) stressed that "An important aspect of facilitating students' active participation in research lies in keeping a balance between tutors' intervention and students' autonomy at each step of the research process." (p. 54). So, the more practical the material, the more engaged the students become; students should not only learn about methods but also apply them to develop other skills and experiences. As such, teachers play a critical role in orienting their learners to research by encouraging critical reflection and continuous evaluation of both RM course design and delivery.

In addition, by adopting a more interactive pedagogy, teachers can play this role and students can benefit from thought provoking discussions. Together with their students, teachers can create an environment of not just transmitting passive knowledge to their students but rather share, discuss and critically evaluate knowledge; and more importantly they practically conduct research. So, efforts should be made from the part of the teacher to carefully plan RM course in a way that insures both interactivity and practicality of the materials presented.

Another solution to increase the effectiveness of RM teaching is to integrate methods concepts across the curriculum. This integration will ameliorate the quality and the quantity of methods training that undergraduates receive (Gunn, 2017). RM should not be isolated from the rest of the curriculum. Only in this way research methods subject will not be regarded as purely theoretical.

**4.4. Research Methodology Testing and Assessment Approaches**

Evaluating students' research skills development may be even more stressing for teachers of this course and it is another important issue to review. Garner, et al. (2009) arrived at the fact that RM assessment "…is therefore an area of challenge and opportunity" (p.8). They believe that because research methodology teaching and learning is not a well-established discipline, there is no agreement about the effective methods of assessing students' achievements. Therefore, in the very little literature available on research methodology assessment, both the "what" and the "how" still need deep investigation to be advantageously answered. Ward et al. (cited in Garner et al. 2009, p.139) emphasized the importance of innovation in assessment as it both helps students in their learning through reflecting on what they have studied; and teachers in continual refinement of the curriculum. They argued that "Assessment should be an integral component of effective teaching and learning processes." But they regretted the fact that "all too often assessment tasks are set as a final consideration in isolation from curriculum content." (Ward et al. in Garner et al. 2009, p.141).

For undergraduate students, Adeney and Carey (cited in Kilburn et al.,2014 p. 199) urged teachers to use even more innovative forms of assessment that will not only assess their attainment of the content of the course but also enable them to go through the process of research smoothly. Ward et al (cited in Garner et al. 2009, p.139) stated that "Employing a variety of assessment tasks provides students with a rigorous framework from which to learn, use, practice and evaluate research."  In addition to varying the style of assessment, emphasis on making assessment as authentic as possible can also make from it an efficient and effective one (Fung, 2017). It is very important for teachers to be aware that in order to make teaching interactive and engaging, it is also important to design assessment activities that better evaluate not only content

knowledge acquired but also the research skills learnt. Thus, the pattern of assessment should not be designed in traditional modes such as essays, multiple choice tests, and timed examinations; but, it should be based on more innovative and modern frameworks which emphasize peer assessments and group tasks which are often done in a form of collaborative projects because they "…foster meaningful connections between students, researchers and research"(Fung, 2017, p. 40). However, Fung, 2017 claimed that "Planning changes, especially those which take academics out of their comfort zone, takes time and institutions committed to more authentic, research- based assessments need to take account of this in workload models" (p.107).

It is also highlighted that employing multiple assessment tasks is favoured by students. Receiving regular and continuous feedback and evaluation on their progress proved effective for students' achievement in RM development. Ward et al. developed this argument as they stated that "Continuous assessment allows both lecturers and students to gain an understanding of the learning outcomes gained by particular students" (cited in Garner et al. 2009, p.145). By adopting small tasks methods (individual and group tasks) of assessment, students develop content material and understand how to apply this knowledge. Thus, teachers should be flexible in carefully selecting assessment techniques that account for different and various learning styles. In addition, it is significant that assessment tasks are not treated as a final, add-on item in a curriculum but as a consolidating support of the learning process.

For assessment tasks to be effective in evaluating students' research skills development Ward et al. (cited in Garner et al. 2009, p.139) listed the following criteria:

1. Using competencies to design research curriculum and assessment tasks,

2. Balancing theory and practical assessments,

3. Using multiple assessments tasks,

4.  Developing assessment that builds on previous knowledge,

5.  Balancing group and individual projects, and

6.  Providing and receiving feedback.

Teachers have a myriad of choices to assess students' research skills. Schutt et al. (1984) suggested the following alternatives:

A.  Complete research project, conducted individually or in groups;

B.  A partial research project, involving preparation of a research proposal or secondary data analysis; and

C.  Individual assignment

From all these three options, teachers should consider their students' level and the learning context in general. For many teachers, especially those who teach undergraduates, the first option is hard to achieve. Teachers who aim at covering wide range of course content will not manage assigning their students whole research projects. What is important about the above options is that all of them offer students opportunities to engage in actual research experience**.**

**4.4.1. Conducting a Complete Research Project.** Teachers who choose to offer their students the opportunity to be involved in actual research projects face even more challenges but rewarding results. Refereeing to this mode of assessment, Schutt et al. (1984) stated:

The primary purpose of this kind of sustained project is to make the student "fight through" a difficult task, first by experiencing a floundering period, then by examining alternative courses of action, dealing with a series of nitty-gritty details, and finally by wrestling with a series of decisions at the analysis and write-up stages. (p. 245)

It is for teachers who choose this mode of assessment to consider time and energy spent to supervise all of the groups' projects especially that it is an assessment mode that lasts, usually, for a single semester. Indeed, supervision is another opportunity for students to learn better about research methodology and develop their intellectual experience. Teachers also can redress unclear points and foster better retentions of the course content. Students may be asked to conduct a small study scaffold by the teacher who should seriously give students deadlines for each step in their research process.

It has been reported that students react differently at different stages of the project: anxiety at the start, frustration after some weeks of literature reading, motivated during research instrument design phase, excitement at the data-analysis stage, and alleviation when it is presented both in written and oral forms (ibid, 1984).  In spite of the fact that a great deal of work is done by students in this mode of assessment, they learn a lot from this experience.

Leone and Maurer-Starks (2007, p.64) suggested effective strategies for teachers to assist students realize a research project:

**Stage one: Laying a solid foundation for research:**

In this first stage teachers should make students explain house building analogy, that is, as we need to find a site to build a house, the foundation of research is finding a topic by doing the following activities:

**Activity one**: **Mapping it out:** this activity aims at developing skills of sharing and collectively synthesizing ideas. It encourages learners to brainstorm ideas for research topics using index cards. Five to ten ideas should be generated. Students are asked to exchange the

cards to add content or further ideas to the cards. Teacher, then ask students to write these topics on the board for class discussion.

**Activity two: Steering the ship information navigation:** with a chosen topic in their minds, students are to be moved to the next step that is gathering appropriate literature. Teachers need to take students to the library and teach how to search for books and other materials. They need also to find valid search engines to research their topics of interest. The outcome should be generating a list of 5 to 10 references.

**Activity three:** Getting out there: in this activity, students are to attend a research conference or a symposium held at the same university, for less expenses,. This activity gives students the opportunity to be exposed with research and researchers. The role of the students is to find researchers, talk with them, and have their signatures, for verification reasons.

**Stage Two: Climbing the steps: having a go at it!**

In this stage, the instructor smoothly guides students to other more sophisticated decisions in the research process.

**Activity one:** the first of these decisions is whether the research project requires gathering quantitative, qualitative data or both. That is, which method to follow quantitative, qualitative or mixed methods. To arrive at the best decision, the instructor can lunch a class debate. Students' participation, which is always within groups, is determined by giving more argument for the best method.

**Activity two: Hypothesis/research question development:**

Using either inductive or deductive approach, the instructor should help the students find their own way. For those who choose the inductive approach, they are required to list all concepts related to their topic of interest. Students should discuss each concept to keep or exclude to come with the final new list of themes or lines of inquiry which will later serve as research questions to be used in interviews or other qualitative research instruments.

For those who choose the deductive approach, they are encouraged to come up with specific questions to be empirically tested. Working in groups, students prepare questions using note cards. Then, they go through processes of synthesis to reach core research questions/hypotheses to be tested later.

**Activity three:** students are then encouraged to devise their qualitative and quantitative instruments, pilot them in the classroom, and later to be evaluated with the instructor. General Comments and suggestions are to be shared written on the board for all the students.

**Stage three:** Cement anyone? Putting the pieces together

The aim of this stage is to enhance students' confidence. By scheduling time to meet with each group of students to discuss and evaluate their progress, students will feel more confident that what they are doing worth the effort. This activity can take only 15 minutes of each class time. Students can benefit from immediate feedback and student productivity can be maximized.

**Stage four: Academic map-questing your work: where to go from here?**

At this very important stage, the instructor should show students different ways of how to disseminate their findings by finding the right place be it a journal or a conference. This will them consider limitations and review their projects with high standards.

**Stage five: blood, sweat, tears, and toner cartridges: future applications**

Another important skill that students need acquire for successful research project completion is developing realistic timelines. Through collaboration, students also need to learn to work within appropriate timeframes. This should be reflected in a grant proposal which can be realized in a semester.

**4.4.2. Preparing a Research Project Proposal.** Because mainly of the big number of students, instructors may not be able to supervise whole projects and they favour to assign students to prepare research proposals. However, instructs are still required to evaluate their students' essential research skills development.

**4.4.3 Short Exercises.** Such an approach of assessment can help teachers in different ways. They can easily supervise all students as each exercise will not take so much time. Students also can focus on each phase of their projects through doing individual exercises guided by their teachers.

**4.4.4 Continuous Evaluation.** Compared to the other previous modes of RM evaluation, this mode seems easy to design and use but it is even more demanding and stressful, though rewarding as well. Each student should be the focus of each pedagogical meeting, and teachers need to make sure that the content taught is fully retained.

**Conclusion**

In conclusion, this fourth chapter theoretically identified the significance of research methods pedagogy especially for undergraduate programs. It tried to cover literature on the teaching and learning of the research methods. Problems of the existing methodology pedagogies were rigorously examined and new prospects were arrived at. Indeed, in spite of the fact that this

is an underdeveloped field of enquiry, good practice of RM teaching, learning, and evaluation were identified as forms of the new pedagogy culture, and this in turn paves the way to designing our experiment that will be presented in the next chapter.

*Chapter Five: Research Methodology and Design*

## Chapter Five: Research Methodology and Design

**Introduction**

Conducting research in the classroom setting delimits methodological choices and, thus, types of data and analytical frameworks. In the present study which is contextualized in the territory level, a critical issue related to the teaching of research methodology to undergraduates studying English as a foreign language at Batna 2 University, Algeria, has been addressed. Since it is a classroom research, the methodology opted for will be obviously inspired by the action research methodology. In what follows a reminder of research questions, objectives and hypothesis is deemed crucial particularly for justifying the choice of the method adopted and the data gathering tools chosen. It is also obvious that in this chapter a sound explanation of the research design planned for this study should be presented in a way that unveils detailed aspects of how data are gathered, measured and analyzed. In addition, a special reference is also made to the ethical issues considered in the design of the present study.

**5.1. Methodological Considerations in a Foreign Language Classroom Research**

To plan an investigation in a classroom, especially in a higher education one, a researcher needs to visualize the general picture of the peculiarities of the research design, methods, procedures (including time frame and budget), tools of investigation, and decisions made and actions taken during the research process. In addition to the role of the researcher, in this context, teaching should not be overlooked. In this study the researcher is also a teacher, "insider", and as such she has this general picture; however, it is significant to give an overview of what should be considered when the study is conducted between the walls of especially a higher education classroom where English Language is the main subject of study.

Though the issue raised in this study has no influence on the English language learning per se, its main participants are majoring in English Language and Literature and the researcher is a language teacher.  Hence, it is of paramount importance to mention the overall considerations that are taken into account in the design of the present study, especially the experiment part.

Designing an action research in a higher education language classroom is not meant to be generalized; it aims at finding practical solutions suitable to be applied to a particular local situation (Henning, Stone, & Kelly, 2009). That is, issues of generalisability' have no place to be discussed in the methodology of the present study. It is argued that in educational action research, the problem may be shared by many stakeholders, but if the study experiments with some teaching methods, techniques and activities in a certain context, the results obtained, though may appeal to other contexts, we cannot declare any possibilities of generalisability. Thus, results of an action research study bring forth theoretical and practical knowledge about the context where the research work took place. However, it is worth mentioning that results of a classroom action research can confirm, modify, or contradict a certain pre-existing generalization in literature (Cousin, 2009).

It is also important to mention that the researcher should be aware of research bias and subjectivity, especially that the researcher is herself the teacher of the subject under investigation (Efron & Ravid, 2013). In fact, action research studies are criticized for being biased and subjective (Brown & Coombe, 2015). At different stages of data collection, analysis, and interpretation, the researcher should reflect on the extent to which her personal attitudes, beliefs, and mainly actions can influence the validity of the results obtained. For instance, in the analysis stage of research, the researcher is supposed to observe the students' interactions, their

assignments, their tests, questionnaires and interviews. So, the researcher is involved in the interpretation of all tools of investigation, but she should not interpret what she wants. Objectivity can be achieved by depending on the theoretical framework explained in the literature review. The latter gives the researcher many choices to examine the data from as many perspectives as possible (ibid). Moreover, by employing cross-checking sources (triangulation), the researcher can, to a great degree, free her research from bias and subjectivity.

The teacher also should understand the needs and expectations of his/her participants who are in this case higher education students. It is critical that the researcher, whether an "insider" or an "outsider", know the different types of the students' needs. The success of the research study depends to a great extent not only on the treatment prepared to be tried out but also on the extent to which students are ready to adjust their learning to new conditions. As such, emotionally preparing students to take new roles and do different tasks is taken into account.

## 5.2. Deciding upon the Research Methodology of the Present Study

Among the many existing methodologies available for classroom researchers, decisions on a certain methodology, to be opted for in a certain study, are not randomly made. Indeed, another overwhelming decision in the journey of research is the selection of an appropriate research methodology that, of course, helps answer the research question(s) and achieve the study objectives. Brown & Coombe (2015) set some directions to arrive at the best choices of the study methodology. They agreed that the nature of the issue raised in a study reduces to great extent methodological options. Second, reviewing the literature gives insight on how other researchers, doing approximately similar works, approached methodology in their works. Next, learning more about research methodology by taking courses or reading books enhances also the

researcher's ability to choose from the many methodological alternatives. Consulting other researchers and seeking advice from experts in the field of your inquiry would also help so much in taking good decisions for more effective methodology (Brown & Coombe, 2015). In what follows is a description of the research paradigm, research approach, methods, design, data gathering tools, data analysis procedures, and ethics of the research study.

### 5.2.1 The Research Paradigm

In classroom research, identifying with one research paradigm and not another one shows the assumptions of the researcher on her/his teaching and learners' learning process (Brown & Coombe, 2015). It is critical that the researcher clarifies earlier ahead what paradigm her study accords because as Brown & Coombe (2015) said "… the research paradigm will significantly influence all aspects of the research process" (p. 75). So, before deciding on a certain methodology, the researcher should be clear about the paradigm in which her study fits well. Action research accords with the pragmatism paradigm as it is pointed out by Biesenthal (Pragmatism , 2014)

> Pragmatism is a distinctly American philosophy that aims to uncover practical knowledge—knowledge that works in a particular situation. The acquired knowledge is evaluated by reference to its problem-solving capacity in everyday life rather than its universal applicability, which makes pragmatism a fruitful tool for action researchers. (p. 647)

Methodologically speaking, this paradigm offers the researcher flexibility to adopt a variety of methodological choices to solve the problem raised in this study. In this vein, Paltridge and Phakiti (2015) explained that "Pragmatism seeks an application of multiple methods, types of data and data analyses that can fully provide answers to research questions or problems" (p. 28).

They further put that "Pragmatists might combine a traditional survey research method using a large sample size, followed by a case study utilizing individual interviews (with students, teachers and administrators) and classroom observations using both structural observation schemes and qualitative observations" (p. 30). Accordingly, it is clear that triangulation of data gathering tools, which will be described later, is theoretically justified within the pragmatism frame of reference.

**5.2.2 Action Research and the Mixed Methods Approach**

Since the classroom action research is informed by the assumptions of the pragmatic paradigm, the approach we opted for in the design of this study is the mixed methods approach. The latter is defined as the integration of both quantitative and qualitative methods in the stages of data collection, analysis and interpretation of a research study in order to reach credible and convincing results (Creswell & Tashakkori, 2007). In a rigorous action research like the one presented in this thesis, complex ways of solving the problem under investigation are necessary. Investigating the pedagogy of research methodology in the undergraduate level is such an issue that demands integrated methods to find more sound and significant results. In addition to the complexity of the problem under investigation, the use of the mixed methods approach is also justified on the grounds that " … researchers can produce scientifically sound, contextually relevant, and effective plans for action/intervention, thereby providing a solid ground for promoting sustainability of the meaningful change and for ensuring better transferability of the action/intervention results to other professional and community settings" (Ivankova & Wingo, 2018, p. 2). Advantages of adopting a mixed methods approach in an action research study, and in our study, are summarized by Ivankova and Wingo (2018) in the following figure:

Addressing a practical issue in a systematic and dialectic way through

- comprehensive assessment of a problem from different perspectives
- development of a reliable and valid action/intervention plan tailored to diverse needs
- rigorous evaluation of the action/intervention
- credible and valid conclusions about action/intervention outcomes
- an evidence-based approach to action/intervention monitoring
- enhanced action/intervention sustainability

Enhancing translation of research into practice by

- enhancing stakeholder engagement at every phase in an action research cycle
- creating a sense of ownership and empowerment among stakeholders
-  optimizing action/intervention outcomes
- illuminating and assessing change over time
- enhancing transferability of action/intervention results to other contexts and community settings
- supporting effectiveness of change action
- promoting sustainability of meaningful change

*Figure 5* Advantages of Combining Mixed Methods and Action Research. (Ivankova and Wingo, 2018, p. 9)

On the basis of the above advantages, an action researcher does not have another option to investigate the research problem apart from employing the mixed methods research approach.

Embracing mixed methods as the methodological framework of the present study dictates the use of both quantitative and qualitative research methods. In their book, Creswell & Creswell, (2018, p. 57) differentiates between three types of mixed methods research (see figure 6): 1) Convergent mixed methods which means that the research combines quantitative and qualitative measures simultaneously to comprehensively cover all types of data and use them for more sound interpretation. 2) Explanatory sequential mixed methods in which the researcher starts by collecting quantitative data, analyzing them, and building on other qualitative data to explain

them. 3) Exploratory sequential mixed methods in which the researcher starts by gathering

qualitative data to explore the problem among participants. Then, the researcher moves to the

second stage of the research that is gathering quantitative data as a follow-up.
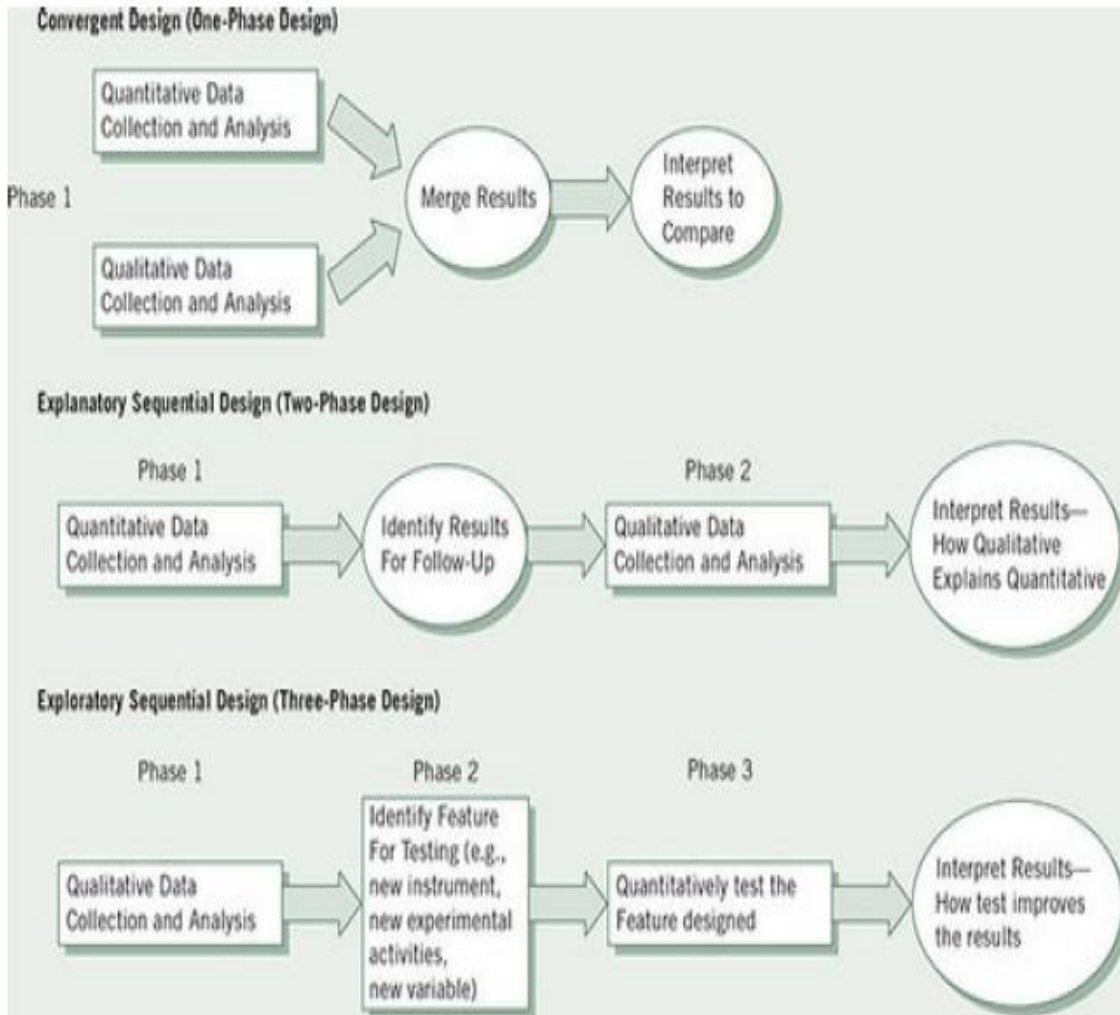


*Figure 6* Three Core mixed Methods Designs (source: Creswell & Creswell, (2018, p. 300)

On the light of these three categories of the mixed methods framework, the present study,

which investigates the use of the interactive teaching model in developing students' research

knowledge and skills in a research methodology course, will make use of the convergent mixed-

methods approach because the researcher aims to gather multiple types of data which together

comprehensively cover all aspects of the topic under investigation. In addition, the researcher aims to minimize both bias and subjectivity by using triangulation.

**5.2.3 The Choice of the Method**

Being specific about which methods best help gather relevant data depends on both the nature of the questions asked and the objectives made by the researcher. This study investigates the extent to which adopting interactive teaching model (ITM) in teaching research methodology course promote the undergraduate third year EFL students' skills, knowledge and attitudes toward research. It mainly aims at enhancing the teaching of the research methodology by focusing on the teaching methods used by teachers. So, this problem requires both descriptive quantitative, through a survey, and experimental methods, via a quasi-experiment.

*5.2.3.1 The Descriptive Quantitative Method*. We started this research project by gathering descriptive quantitative information about a group of undergraduate students majoring in English language and literature studies at the University of Batna 2 and a group of research methodology teachers. The aim of this method is to be familiar with the major attributes of the members of this group as far as research methodology teaching and learning are concerned (Morrell & Carroll, 2010). In this study the survey method is used and the data gathering instrument employed is a questionnaire which will be described later in this chapter.

*5.2.3.2 The Experimental Method.* The second major method employed in this study is the experimental method. This method allows the researcher to study the hypothesized influence of one variable (independent) on the other variable (dependent) and test how the dependent variable changes as a result of the manipulation of the independent variable. In Singh's words "From an operational point of view, it [experimental method] is a matter of varying the

independent variable in order to study the effect of such variation on the dependent variable" (Singh, 2006, p. 134). The present study aims at manipulating the teaching method variable by replacing teacher-centred and lecture-based approach by interactive teaching approach (independent variable) and finding the effect of such change on students' research knowledge and skills development and attitudes change (dependent variables).

With its tightly controlled conditions of application and the necessity to control all variables (extraneous variables) that may influence the behaviours of the participants other than the intended experimental stimulus, and the random selection of the experiment subjects (identical groups), it is obviously unpractical to apply the true experiment (randomized) in the classroom setting. In natural settings like the classroom, quasi-experimental method is opted for instead (Remler & Ryzin, 2015). Indeed, in educational settings it is almost impossible to choose the participants randomly because of mainly administration constraints. For example, the whole population of our research is taught by four teachers, so it is not convenient to choose participants randomly. Also, students are sometimes reluctant to devote their time and attend sessions in which they are to be exposed to certain new teaching conditions.

*5.2.3.3 The Quasi- Experimental Method in Classroom Research*. In contexts where the researcher cannot hold full control of all conditions but still the influence of certain intervention is to be tested, it is through the quasi-experimental method that the researcher can answer the research questions and test the hypothesis. Ary, Jacobs, & Sorensen (2010) provided the following definition: "Quasi-experimental designs are similar to randomized experimental designs (true experiments) in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups." (Ary, Jacobs, & Sorensen, 2010, p. 316). Reichardt (2019) said "Quasi-experiments are not the same as randomized

experiments, but they are not false in any meaningful sense of the word" (p.4). So, in the absence of randomness, the researcher in the classroom still can try different teaching methods and strategies and test their influence on their students' achievements through this method.

    *5.2.3.3.1 The Pre-test–Post-test Non-equivalent Group Design*. This type of quasi-experimental design is preferable when participants are not chosen on a random basis. The pre-test in this design enables the researcher to measure how similar the Control (C) group and the experimental (E) group are at the level of the dependent variable and "The more similar the experimental and the control groups are at the beginning of the experiment, and the more this similarity is confirmed by similar group means on the pre-test, the more credible the results of the nonrandomized control group pre-test–post-test study become" (Ary et al., 2010, p.317). Essentially, and in this study the test checks the existence of any differences between the intact groups in terms of research methodology knowledge and research skills. Both groups should be similar at this regard to attribute the results of to the treatment conditions. In this design, it is only the experimental group that receives the intervention and at the end of the experiment both groups receive the post test to measure the outcome or to find about the influence of the experimental stimulus. This design is summarized in the following figure:

| Group | Pre-test | Independent variable | Post-test |
|-------|----------|----------------------|-----------|
| E | $Y_1$ | X | $Y_2$ |
| C | $Y_1$ | — | $Y_2$ |

*Figure 7*.Nonrandomized control group, pre-test–post-test design (Ary et al., 2010, p. 316)[1]

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[1] E: experimental   C: control   $Y_1$ results of the pre-test    X the treatment    $Y_2$ results of the post-test

In the case of the present research the participants are chosen as convenient classes taught by the researcher because it is not feasible to randomly choose the intact groups from the whole population. However, the researcher has folded two pieces of paper including G 3A and Group 4 B (the classes she was assigned to teach), and then she has chosen randomly one to be the experimental group (group 4b) and G 3A as the control group.

*5.2.3.3.2 Threats to the Design Validity.* In spite of the applicability of this design, Ary et al. (2010) urged that "it is extremely important that researchers be aware of the threats to both internal and external validity and consider these factors in their interpretation." (p. 316). Jackson (2009) also explained that "internal validity is the extent to which the results of an experiment can be attributed to the manipulation of the independent variable, rather than to some confounding variable. Thus, quasi-experimental designs lack internal validity." (p. 325). That is, if the two groups are different at the end of the experiment because of the intervention, we can say that the internal validity of the experimental design is achieved. Otherwise, the results of the intervention may not be attributed to the effects of the manipulated independent variable but other extraneous variables. And this case internal validity is threatened. Hence, in order to find about the extent to which the implementation of an interactive teaching model (independent variable), in a research techniques course, positively/negatively influenced students' research methodology and skills development and attitudes change, some extraneous variables which have direct relationship with this study should be controlled to achieve internal validity. The following table summarizes the confounding variables that are controlled in this study to increase internal validity.

Table 4

*Controlling Confounding Variables to Increase Internal Validity of the Study (*Lodico et al. (2006)

| Confounding variables2 | Definition | Control |
|---|---|---|
| **History** | A new event that may directly influence study results such as new educational reform | Adding a comparison group helped keeping this threat constant |
| **Maturation** | The results of the study may be attributed to students' emotional, cognitive, or physical growth | Participants in both groups are of the same age (20-23) throughout the time span. |
| **Testing** | Students' answers in the post test may be influenced by their familiarity with pre-test. | To control this threat a comparison group is added; the wording of the post-test was changed; and the time between the post-test and pre-test is four weeks |
| **Instrumentation** | The level of difficulty of the pre-test and the post-test is not the same, and the way they are administered is different. | Both the pre-test and the post test are designed by the researcher with the same difficulty level and she checked for both their validity and reliability. The tests are administered in the same classroom with the |

|  |  | presence of the researcher. |
| --- | --- | --- |
| **Statistical regression** | If the treatment is implemented because of high or low scores in the treatment, participants' scores in the post test will be lowered to the mean score and hence will bias the real effect of the intervention. | To deal with threat, after pretesting the students, the researcher finds in both EG and CG lower achievers. |
| **Differential selection of subjects** | It refers to the likelihood of participants' differences between the EG and the CG especially at the level of the independent variable. | The study uses the pretest the results of which confirmed the similarity between the two groups. |
| **Mortality** | Participant drop out of the study because of death or other reasons. | This threat is dealt with by shortening the period of the intervention (8 weeks) and participant dropped out. |

In addition to controlling these extraneous variables, the research finds that in the context of this study it is important to mention other variables that we think may influence the results of the study. First, **teacher's effect** can be said to influence how the intervention is implemented; hence, the researcher is the instructor of both the control and experimental groups. Second, **to eliminate the effects of the day time,** both groups are taught in the morning. Third, both groups were taught in the same **type of classroom** (basic with only chairs, tables, and a white board).

Four, **teaching materials** in the form of lectures handouts were uploaded to the teacher's website 15 days before starting the experiment and all students have access to them.

By trying to control all the above mentioned variables, we believe that the effects of the treatment (manipulation of the independent variable) will be the only one that changes the dependent variable; that is, no alternative interpretations to the results of the study apart from the intervention. As a result, the pre/post-test of the present study can said to have internal validity.

External validity which is about the extent to which data can be generalized to other subjects of the same population should be also discussed as far as this design is concerned. External validity has mainly to do with the sampling techniques used by the researcher; randomness allows equal selection of subjects, so results can be generalized. But in quasi-experimental designs random selection is absent, so can we say that this is a threat to this type of validity? According to Lauren Thomas (2020), since the experiment is carried out in natural and real educational setting instead of artificial context, the study can be replicated, so external validity can be consolidated through replication.

## 5.3. The Study Research Variables

Teaching research methodology to undergraduate students for five years allows us to observe our students' learning behaviours, worries, and expectations. In spite of the fact that the teaching-learning processes are influenced by many factors, the researcher, who is also the teacher, believes that lecturing as the dominant teaching method may have negative influence on students' achievements. Taking into account the abstract nature of the content covered in the lectures presented by teachers of research methodology in this department, it is obvious that students find it difficult to retain knowledge let alone develop research skills. As a result,

students' develop negative attitudes toward the course and even come disinterested from the very beginning. Accordingly, since this study tries to establish the relationship between students' interactivity in a research methodology course and their research knowledge and skills development and attitude change, it is obvious that the **independent variable** in this study is the use of **interactive teaching model**; that is, manipulation will be at the level of the teaching method. The **dependent variables** or the variables that will be measured as a result of the independent variable are **students' research methodology content knowledge**, **research skills**, and **attitudes toward research**. The definitions of these key variables were presented in the general introduction.

## 5.4 The Design of the Present Research Study

All research studies have plans of action via which research questions are answered and objectives are achieved. Efron & Ravid (2013) stated that "The question is a trigger for planning the process that will enable you to find meaningful answers. (p. 56). Creswell and Creswell (2018) defined research design as "… types of inquiry within qualitative, quantitative, and mixed methods approaches that provide specific direction for procedures in a research study" (p. 49). For example, under the guidelines of the quantitative approach, a study can be planned by experimental, non-experimental (survey research), and longitudinal designs. The qualitative approach can be applied in narrative, phenomenological, grounded theory, ethnographical, and case study designs. So, adopting the mixed methods approach to scientific inquiry requires complex designs which are both quantitative and qualitative in nature (Creswell & Creswell, 2018).

Therefore, the present research inquiry employs an action mixed methods design which necessitates planning a complex design integrating a quasi-experimental design, non-experimental design (descriptive quantitative survey) and qualitative design (class observation and focus group discussion). The designs are applied in parallel; that is, we applied a convergent type of mixed methods research design which allows for building a holistic understanding of the problem under investigation by gathering quantitative and qualitative data simultaneously, analyzing them separately, and then integrating them for more comprehensive interpretations.

## 5.5 The Research Participants and Sampling Technique

### 5.5.1Research Participants

Another critical selection a researcher should make for the research study is at the level of the individuals who participate in the field work and their number. Lodico, Spaulding, & Voegtle, (2006) defined participants or population as "They are the adults or children who will receive your treatment, take your surveys, or be under your close observation." (p. 140). Participants provide the researcher, through the tools she uses, with valuable information about their behaviours, perceptions and actions, and in classroom research, about their participation and learning. In this research study the participants were both teachers and students from DELL, Batna 2 University.

Teachers of research techniques are a good source of knowledge as far the practice of research methodology teaching is concerned. By interviewing them we can yield important data about experiences and attitudes research methodology teachers have towards the teaching practice of this course at this department, methods and strategies teachers adopt in teaching and

testing the content of the course. Teachers of research methodology are four including the researcher, so we had informal discussions with three teachers, two females and one male.

We chose our second population from undergraduates third year LMD students majoring in English language studies because research methodology course is taught to this level and not to first and second year students.

It is worth mentioning at this point that there is still a contravention of opinions at the level of this department which has to do with a subject which is considered research methodology that is TTU (Technique de Travail Universitaire). Riche (2010) also pointed out that TTU is taught as RM course in some universities. However, TTU, or as it is called in some universities (Blida, Setif, Oran, Telemecen) Study Skills, has nothing to do with teaching students how to conduct research following a scientific process. TTU is concerned mainly with acquainting students with methods and strategies that can help them study effectively at the university. Because of this conviction, we consider RM course to be taught at first to third year students and not before. Nonetheless, some students have been exposed to some content of the research methodology course during either their first or second years or both through the TTU course; it depends on, of course, the teacher. As such, for 30 minutes discussion with participants of the study about the content of the TTU course for both years (1 and 2), we could draw conclusions on what content students were exposed to, their attitudes about how it was delivered, and what they have actually learned.

**5.5.1.1 Profiles of the Participants. The students:** This study is done on a population of EFL students at their final year of the undergraduate level, third year. They are from DELL, Batna 2 University.  The age of the students ranges from 20 to 23. When asked about their

experience about their teachers teaching methods, they reported that all of them use lecture based methods especially for their first and second years. Students in the experimental group were not satisfied with these methods and they were very motivated when we explained the aims of the experiment which focus mainly on teaching research methods, the most hated course, through interactive teaching strategies. Though working in groups may cause some problems to these students, the idea of giving students the freedom to choose members of their groups was welcomed by students, and throughout the experimental phases we received only two groups' complaints which we discussed in the teacher's office and for which adequate measures were taken.

 **3.6.1.2 The teachers:** In the academic years of 2018/2019 and 2019/2020 the teachers who used to teach research methodology to third year students were four teachers, two males and two females, including the researcher herself, but in the academic year of 2020/2021, one male teacher decided to stop teaching this subject and another female teacher, holding a PhD degree, replaced him. But still all of them are full time teachers, holding a PhD degree or in the final phases of their research projects. Before 2018 (2015, 2016, 2017) the subject of research methodology was also taught by part-time teachers who were also PhD candidates of this department. However, they are not included in this study because we could not contact them. In general, informal discussions about the issue of research methodology teaching were also conducted with more experienced teachers in this department and in others through attending seminars and study days. Emailing Pr. John Willison from the Adelaide University, Australia in 2020, who designed RSD framework (Research Skills Development) was very critical for the design of the experiment and the research study in general. Indeed, there is a general consensus on the importance of the topic under investigation and the significance of the results of the study.

In addition to informal discussions with all these important subjects, in the academic year 2020/ 2021 the 3 teachers from the same department were the second focus of this study.

**5.5.2 Sampling Technique and the Sample Size**

As it was mentioned above, teachers of research methodology and third year EFL students are the target populations in this research study. When the population is big to be studied in one study, sampling is needed. As it is mentioned above the population of teachers is composed of only three teachers, so the whole population is studied and purposive sampling technique is used. This technique means choosing the sample in term of fitness for purposes of the research. Cohen, Manion, & Morrison (2018) argued that "In many cases purposive sampling is used in order to access 'knowledgeable people', i.e. those who have in-depth knowledge about particular issues, maybe by virtue of their professional role" (p. 219). Consist with this quote, our study chose these research methodology teachers purposefully because they can provide in-depth information about the practice of the research methodology teaching in the case of the DELL, Batna 2 University.

From the population of students which is composed of 309 students, divided in 7 groups, we need to take a sample on which we apply the design of this small-scale study research. Since the present research study aims at solving a local pedagogical problem in the teaching of the research methodology course, non random convenience sampling technique is most useful. Though convenient sampling does not guarantee a representative sample of the population, the students were sampled by this technique because at this level they are taught by three different teachers and the researcher is currently teaching two groups of students, a total of 81students mentioned in the lists provided by the administration (37 in G 3 and 44 in G 4), but the actual

number of students who attend classes is 58 (28 in G 3 and 30 in G 4). This number makes 26% of the whole population. The choice of this sampling technique is mainly based on Maree and Pietersen's reasoning that "convenient sampling allows for the accommodation of a population which is easily and conveniently available" (cited in Lombard and Kloppers, 2015, p.4). In the case of this study, the researcher chose her students (from groups 3 and 4) because they are available classes throughout the academic year. However, it is worth mentioning that these groups are not chosen by the researcher but they are assigned randomly to her by the administration of the department of English language and literature, Batna 2 University.

*Sample size.* For the descriptive part of study, 3 research methodology teachers from the department of English language and literature, Batna 2 University were of great help. From the same department a sample size of 58 undergraduate third year students participated in the experimental phase of this study. This number represents 28 students in the control group (CG) and 30 students in the experimental group.

## 5.6 Data Collection Instruments and Triangulation

After determining the research participants and their number, the next step is to describe the type of tools used to gather information from them. The convergent mixed methods design explained above will be executed through multiple data collection sources and strategies. Triangulation of data is indispensable in the realization of such design. Triangulation is defined as "The process of comparing different sources of data or perspectives of different participants" (Lodico, Spaulding, & Voegtle, 2006, p. 309). Cohen, Manion, & Morrison (2018) thoroughly explained the concept of triangulation and they said "…triangular techniques… attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from

more than one standpoint and, in so doing, by making use of both quantitative and qualitative data" (p. 265). Thus, this technique helps the researcher to reinforce both the validity and the credibility of the study findings. Baekgaard and Lystbeak argued that "We need multiple lenses to attain more valid and adequate knowledge of the phenomena we study" (2016, p. 46). By using multiple ways to collect data, the researcher also avoids bias and subjectivity especially in the case of action research like the one presented in this thesis.

In this study, the data used are gathered chronologically from: descriptive tools (qualitative and quantitative) which are teachers' questionnaires, coordination meeting with teachers, students' questionnaires and focus group discussion with third year LMD students; experimental tools which are two pre-tests, two-phase treatment, two post-tests; and descriptive tools which are program evaluation forms, students' evaluation questionnaire, and a structured classroom observation. So these tools can be categorized as: Tools used before the intervention (exploratory phase), tools used during the intervention (experimental phase), and tools used after the intervention (post-experimental phase). These instruments and these divisions are chosen and made to achieve the objectives of this study and to answer its research questions.

### 5.6.1 Instruments Used before the Intervention

**3.7.1.1** *Teachers' Questionnaire.* As a quantitative data gathering instrument, questionnaires are mainly used in descriptive survey research. According to Brown (2001, p.6, as cited in Dornyei, 2003)  "Questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers." This instrument helps the researcher gather

factual, behavioural, and attitudinal data about the participants of the study (Dornyei, 2003). Questionnaires are designed for various purposes and administered via different means.

*5.6.1.1.1 Description of the Questionnaire.* As first step in investigating the issue of research methodology teaching in the department of English language and literature, Batna 2 University, we designed a questionnaire for the teachers of this subject at this department. The questionnaire is made up of 5 major parts with a total of 35 questions. The first part deals with teachers' demographic information. The second part aims at finding about teachers' general research methodology teaching experience. The purpose of the third part is to know about teachers' specific teaching methods and strategies. In the fourth section, the questions were about course material design and development. The fifth and last part aims at finding about teachers' evaluation and assessment methods. This questionnaire is presented in appendix B.

*5.6.1.1.2 Administration of the Questionnaire.* This questionnaire is sent via email to three research methodology teachers (teaching $3^{rd}$ year students), two females and one male. All of them are from the department of English language and literature, Batna 2 University. All teachers responded in three days time. Analysis of their answers will be presented in the next chapter.

*5.6.1.2 Coordination Meeting Discussion*. On September 26th, 2020 at 9:30 we have arranged a meeting with two teachers of research methodology (A male teacher and a female teacher). Prior to this meeting we had arranged a meeting in 2019 but it was informal and it was of great help in the systematic organization of this meeting. Our aim from this meeting is twofold: first, to identify the major practices of research methodology teaching at our department that could not be unveiled by the questionnaire; second, to design a new syllabus of the Research

Techniques course to third year LMD students that can be unified throughout this degree program. This meeting can be considered as a focus group discussion because it was structured on a predesigned schedule with specific aims and the researcher acted as a moderator who asks questions, guides, and observes discussion.

The meeting schedule was sent to teachers via email one week before the meeting to take place. The schedule included discussing the following topics: 1) Third year research methodology course content; 2) teaching methods and strategies; 3) course evaluation and assessment; 3) students' research projects; and 4) teaching materials. At the beginning of the meeting, the researcher informed the teachers about the objectives of the meeting, and she played the role of the coordinator who arranged discussions according to this schedule. The meeting lasts for approximately one hour.

*5.6.1.3 Students' Questionnaire*. This questionnaire aims at finding about the participants' attitudes toward learning about research and their expectations from a research techniques course. Also, it aims at finding about their favourite learning styles and the teaching methods that they see effective in making their learning experience significant. Results of this questionnaire can help the researcher know better the participants who are going to be a case study for her investigation.

*5.6.1.3.1 Description of the Questionnaire.* This questionnaire (see appendix C) is composed of three sections. Section one aims at finding about whom the participants are (Student's personal information- gender and age). Section two is about students' knowledge of and attitudes toward research and their expectations from a research techniques course. Under this section the students are required to answer 16 questions of different types (one Likert scale,

yes/no and justify, open ended questions, and MCQ). In the third section, the aim is to know students' attitudes toward studying in pairs, in groups, and their preferred teaching and learning styles. This section consists of 10 questions (yes/ no and justify; and open-ended). All the 26 questions of these two sections are written with clear and simple language and we received no queries from the part of the students. The response rate of the questionnaire is 100% because the researcher was present while the students answered the questionnaire.

*5.6.1.3.2 Administration of the Questionnaire.* For this questionnaire, the researcher opted for self-administered pencil-and-paper type of questionnaire. The presence of the researcher during the administration of the questionnaire did not threaten the participants, but the aim was to help them answer their inquiries about any vague or ambiguous items. After the administration of the questionnaires, the students did not complain about any questions and they said that they are all clear and understandable.

The questionnaire was administered on the second week of December, 2020, that is the first week of the academic year (late because of the COVID-19 Pandemic) and it was scheduled in a session other than their regular classes. It took half an hour to be completed because the researcher wanted the participants to take their time to answer all questions carefully.

*5.6.1.4 Focus Group Discussion (FGD).* After submitting their questionnaires, the teacher asked randomly chosen students to stay in class for more time to be asked some questions on their previous 2 years TTU course and their knowledge, skills, and attitudes toward research; on their teachers' teaching methods and their preferred learning strategies. The number of students with which we carried the focus group discussion was 9 students in each group (experimental and control group), a total of 18 students. For 20 minutes, the researcher guided

students' discussion by asking 10 questions (see appendix D). The aim from conducting FGD with students is to supplement the knowledge we gained from the questionnaires with more deep understanding of especially students' KRM, RS, AR, and ITM.

### 5.6.2. Instruments Used during the Intervention

During the academic year of 2019-2020 the researcher started the experiment for one semester but it has been stopped because of the COVID-19 pandemic. The universities were closed on 12/03/2020 and all students went back home. Online teaching replaced onsite teaching and it was impossible to continue the experiment. However, students' answers were not neglected and they were made useful for pilot-testing of the pre-test and the post test of the first phase of the experiment. In addition, the content validity of both the pre-test and the post-test of the first phase of the experiment were tested.

In the academic year of 2020-2021 the ministry of higher education issued a health protocol and allowed universities to receive students in very special conditions that are not familiar to us. However, these new conditions are very beneficial for the application of the ITM which requires small group number of students. In addition to online teaching, the research techniques course is chosen among other courses to be also taught to third year LMD students in class, but there are some courses which are taught only online such as Cognitive Psychology.

The calendar for this academic year is special in that students are taught in separate time intervals. The first semester for third year EFL students extends from the 15$^{th}$ of December 2020 to the 15$^{th}$ of January 2021. Students started the second semester on the 4th of April 2021 until 29th April 202. That is, they were away from their studies for three months. Because of this calendar we divided the experiment into two stages: the first stage of the experiment extends for

the first semester with one pre-test and one post-test; the second stage extends for the second semester with also a pre-test and a post-test.

   *5.6.2.1 The Experimental Intervention.* The course of research techniques is a part of the EFL third year LMD students' program. It is the only course that directly aims at teaching students research methodology knowledge and research skills. In the program of this level, this course is considered an independent fundamental unit with 2 coefficients and 4 credits. Its teaching should be based on a TD rather than lecture. However, in a study that we carried in 2018 with representative sample of students who have completed two semesters research techniques course, on the influence of their teachers' academic identity on their attitudes toward research, there is a general agreement among students that the course is taught via lecturing and slight or no trace of practice is made. Surveyed students agreed on the fact that because this course is based on the traditional method of teacher-based lecturing, they are unable to practice most of the knowledge acquired and even their knowledge of research methodology concepts is shallow and cannot help so much recognize the difference between them. For example, they do not make the difference between research problem, topic, and question. Because of the lack of practice, students reported worries about their future dissertations in the master degree, especially that in both master 1 and master 2, teachers of research methodology, with big numbers of students (200 and more), continue lecturing and assessing the students at the end of the semester (summative and not formative). Lecturing in this case obviously is far from effective instruction.

   The treatment is based on changing the above explained scenario with a more interactive scenario. This scenario aims at developing both students' research knowledge and research skills through student-student, students-teacher, and class interactions. With group tutorials which

allow peer communication and information sharing, we hope to provide students with more learning opportunities. Lecturing, as it will be explained further in the subsequent section, is still maintained but its time reduced to 15 minutes and the other 45 minutes are devoted to tutorial interactions and class discussions. The first part of the treatment lasted for four weeks and the content of the lectures and tutorials covered the following topics: research methodology-in a nutshell, selecting a problem and identifying variables, developing research objectives and formulating hypothesis, and reading appropriate literature.

It is worth mentioning that the lectures are uploaded to the teachers' (researcher) website 15 days before the beginning of the experiment. Hence, both the control and the experimental groups have access to the same handout on the same time. However, for the experimental group the researcher created an online class in Google classroom platform to encourage more interactivity among the students and with the teacher. This can be considered a modification to the designed treatment which focuses mainly on the classroom interaction. These modifications are done because of the COVID-19 pandemic which requires social distancing and because of which class time is reduced to one hour per week and a semester is reduced to one month.

While we planned interactive tutorials to students of the EG, passive lecturing was the method we used to teach students of the CG. Students are used to this method as most teachers in this department adopt it in their instruction. Hence, students' learning was characterized by just taking notes from a teacher (the researcher) who explained the same content of the lectures uploaded to the teacher's website. Students of this group are totally excluded from any sort of interactive or active engagement. Students of this group were assessed through end of term quizzes and they were also required to individually submit research proposals for the first semester and a research project for the second semester.

*5.6.2.1.1 Planning the Experimental Intervention.* Prior to each period of the treatment, the researcher decided on the specific learning outcomes and the type of activities to achieve them during each tutorial. The nature of the content covered in the research techniques course and the interactive teaching model determined the choice of these learning outcomes, the tasks to be performed, and the strategies to be used to achieve them. Since 2016 the instructor designed and adjusted the syllabus of the research techniques module to better fit the undergraduate EFL students at the department of English language and literature, Batna 2 University. Pedagogical meetings with teachers of this course at the beginning of each academic year were of great help in the design of the syllabus (see appendix O). Tutorials' worksheets were designed on the basis of the lectures and the outcome objectives set for the research techniques course with tasks of more than one answer to solve a problem. So, class time was mainly set aside for interactive work among students and it is approximately distributed as follows:

- 20% lecturing

- 40% small group tutoring (interactive strategies)

- 20% class discussion (interactive strategies)

- 20% Evaluation and feedback (peer evaluation and class evaluation)

*Class Size.* Students in the experimental group are divided into groups of 3 students. So during each session of one hour, I tutored three to four groups of 3 students each (that is nine to 12 students). The following table shows the distribution of students in groups during the tutorials.

Table 5

*Distribution of Students during Tutorials*

| Sub-groups | Number of students | Time |
| --- | --- | --- |
| Sub-group 1 | 9 (3 groups of 3 students) | 09:00-10:00 (Tuesday) |
| Sub-group 2 | 12 (4 groups of 3 students) | 10:00-11:00 (Tuesday) |
| Sub-group 3 | 9 (3 groups of 3 students) | 11:00-12:00 (Tuesday) |

This division of students lasted for the whole period of the experiment. Students were told that with the same group members they would conduct research projects and after each tutorial they would be advancing a step toward the realization of their projects. Students were informed that they have to cope with an increase in the amount of active participation and they are expected to make meaningful contribution. The first part of the treatment which lasted four weeks was aimed to help them write first their research proposals and the second part of the treatment, as it will be explained later, which also lasted four weeks was aimed to help them accomplish their projects.

### *The Main Interactive Strategies Used.*

- Team milling (each student has a piece of information and share it with the aim to teach each other)

- Planning questions (to raise the sense of inquiry)

- Brainstorming

- Ranking and reaching consensus

- Role play

- Group instructional feedback technique

Table 6 summarizes the planning stage of the tutorials. Detailed explanation of how each tutorial was organized will be presented in the next section.

Table 6

*Planning of the experiment tutorials*

| Tutorial | Learning outcomes | Type of activities | Interactive Strategies used | Research skills developed |
|---|---|---|---|---|
| **Tutorial 1:** *Clearing Our Vision on Research Methodology* | ♦ To acquire an understanding of what we mean by "research".<br>♦ To differentiate between methodology, method. and technique.<br>♦ To learn about different types of research.<br>♦ Remember the steps of the research process. | ♦ Students share the different meaning they have on the word research and they discuss their hopes and fears from conducting research.<br>♦ Students discuss the criteria which make research scientific.<br>♦ Students define the concepts of methodology, method and techniques using their own words and summarizing the difference in one sentence | ♦ Group discussion<br>♦ Deductive and inductive reasoning<br>♦ Brainstorming and class discussion and sharing answers of different tasks<br>♦ Role play | ♦ Overview of the basic skills to be developed during the course. |

| | | | | |
|---|---|---|---|---|
| | ◆Design a new diagram of the research process | | | |
| **Tutorial 2: Selecting a Research Problem and Identifying Variables** | ◆To discuss topics of interest and limit the choices to one topic.<br>◆To be clear about the research variables of the chosen topics and differentiate between independent and dependent variables<br>◆To differentiate between quantitative and quantitative types of questions.<br>◆To learn how to make good research questions out of the chosen topics and write statements of the problem. | ◆Students of each group were asked to visit the department's library and find three interesting topics, write them in a piece of paper.<br>◆ Each group has a total of 9 to 12 topics in total. The next task is to read all of them and choose 3 to 4 topics only.<br>◆For the chosen topics, students are asked to list the variables of these topics as dependent and independent.<br>◆Students should choose one independent variable and an independent variable from the lists they have and | ◆ Team milling<br>◆Group discussion<br>◆Ranking and reaching consensus | ◆Narrow down a topic<br>◆Write statement of the problem<br>◆Distinguish between a quantitative and qualitative research questions<br>◆Differentiate between independent and dependent types of variables |

|  | try to make a new topic.<br>♦ Students write a specific research question.<br>♦ Each student in the group should contribute with at least one sentence to write a statement of the problem. |  |  |
|---|---|---|---|
| **Tutorial 3: Determining objectives and Setting Hypothesis** | ♦ To write three objectives for their research projects<br>♦ To generate a hypothesis to their research project | ♦ Students choose three suitable verbs (from a categorical list of verbs according to their meaning) and write three objectives (The first one is related to the independent variable; the second one is related to the dependent variable, and the third one is related to both variables.)<br>♦ Students think of a possible relationship between their research variables | ♦ Team milling<br>♦ Group discussion<br>♦ Ranking and reaching consensus<br>♦ Role playing | ♦ Identifying research objectives<br>♦ Setting a hypothesis |

|  |  | and write their hypothesis. |  |  |
|---|---|---|---|---|
| **Tutorial 4: Reviewing Relevant Literature** | ♦ To effectively use the review of literature sheet. | ♦ Each member of the group is asked to bring three research papers related to their team's research topic. ♦ In teams, students use the literature review sheet (designed by the teacher) to review the research papers total of 9. | ♦ Group instructional feedback (each student gives feedback on the answers of literature review sheets of their peers. ♦ Group discussions (major weaknesses and strengths of the sheets). | ♦ Find related literature ♦ critically analyse the literature (by asking a set of questions) ♦ synthesise the main topics from the analysed literature ♦ Summarise the main findings |
| **Tutorial 5: The Study Design** | ♦ To select the suitable research designs for their research topics. | ♦ Answer a set of question ♦ Decide on their methodology design | Role play (like jury members) Group discussion (justifying the answers) | Deciding on the population, sampling, materials, place and time, and procedure. |
| **Tutorial 6: Data Gathering Tools** | To design a questionnaire | ♦ Students write the introduction of their questionnaires. ♦ They set the general parts of their questionnaires according to their | ♦ Team milling ♦ Group discussion ♦ Ranking and reaching consensus | ♦ design an organised questionnaire with both types of questions open-ended and closed- ended |

| | | | | |
|---|---|---|---|---|
| | | variables<br>♦ Under each part, they are required to insert at least three questions of different types.<br>♦ They administer the questionnaires to their target populations. | | ♦ administer the questionnaire to a sample or population |
| **Tutorial 7:**<br>**Data**<br>**Analysis**<br>**and**<br>**Discussion** | ♦ To analyse and discuss the results of their questionnaires | ♦ Each student in a group analyses the answers of one part of the questionnaire (their questionnaires are made up of three parts)<br>♦ Students present their results in tables and graphs.<br>♦ Students interpret the results and answer their research questions in a form of an essay. | ♦ Group discussion<br>♦ Deductive and inductive reasoning<br>♦ Brainstorming and group discussion and sharing results of each part of the questionnaire. | ♦ transforming answers into numbers presented in tables and graphs<br>♦ objective description of the results of the questionnaire<br>♦ use inductive reasoning to reach new interpretations of the answer to the research question |
| **Tutorial 8:**<br>***Writing Up***<br>***the*** | ♦ To know the essential elements of a research | ♦ Students learn about title pages, abstracts, list of | ♦ Role play (like jury members)<br>♦ Group | ♦ Recognising the basic elements of a |

| Research Report | project report<br>♦ To understand the APA style principles<br>♦ To learn about academic strategies to avoid plagiarism | tables, list of graphs, list of abbreviations, introduction, literature review, data analysis and discussion, conclusion, list f references, and appendix through analysing a master dissertation.<br>♦ Students write abstracts of their research studies in class and asked to write the other elements (in groups) at home. | discussion | research project report<br>♦ Disseminating findings and organising them in academically well written report following the APA style |

Students returned both tutoring worksheets and course assignments weekly to track their progress as far as research methodology knowledge and research skills are concerned and to make necessary modifications to the upcoming tutoring sessions. Specific comments were written on each group worksheet and handed back to the students. At the beginning of each tutoring session the teacher discussed major issues shared by all groups. Here is the format of the feedback given to each group of students; it is adopted from Willison (2009, p. 32):

| What you're doing well… | What you need to address for next time… |
| --- | --- |
| - | - |

*5.6.2.1.2 Research Proposals***:** At the end of the first phase of the treatment both control and treatment groups were asked to provide a research proposal including the elements of the research process studied so far. So, students should include a small paragraph explaining the background of their research topic, research topic (in a form of a phrase), a research question (interrogative sentence), a statement of the problem (in a form of short paragraph of 3 to 5 lines), three research objectives, a hypothesis, and a five paragraphs essay reviewing and summarizing important and relevant literature (students were limited by just five sources). List of references was not required to be written by any forms because students were not instructed on how to do this; students are asked to do it on their own. Proposals of both control and experimental groups were received for evaluation two weeks after the fourth lecture (CG) and tutorial (EG). Analysis of students' achievement (focus on research skills) in writing proposals will be described in the next chapter.

*5.6.2.1.3 Research Projects.* Students of both the EG and the CG were told at the beginning of the academic year that they are supposed to write a research project following all steps of scientific research studied in both semester. Students of the CG are asked to do the projects individually, but students of the experimental group, who have been already divided in groups, were asked to keep with the same group members and do the projects. Students were expected to produce more 15 to 20 pages length research report including the following elements: Title page, acknowledgment, list of figures, list of abbreviation, table of content, abstract, introduction (one page), literature review (2 pages), methodology design, data analysis and discussion (up to 8 pages), conclusion, list of references, and appendix (questionnaire). The projects were turned in three weeks time after the last meeting with both control and experimental groups. We were flexible with students and accepted both electronic and printed

copies of their research projects. Students' achievement of research projects were assessed and graded and they will be analyzed in the next chapter.

It would be better to call these final research products in-progress research proposals and in-progress research projects, especially for the experimental group, because students have gradually achieved each one of them through the tutoring meetings.

*5.6.2.1.4 Criteria Used to Evaluate Research Proposals and Research Projects.* Both research proposals and research projects elements are modified to fit students' basic research methodology and research skills. At the undergraduate level, students are exposed to only basic knowledge, so expectations of learning outcomes should not be high.

For the research proposal we evaluated students' knowledge and ability of: 1) finding a research topic, narrowing it to a researchable research problem, writing a statement of the problem, writing a research question (just one), and determining its type (quantitative or qualitative); 2) determining the research question variables and operationally defining them; 3) writing two research objectives and one hypothesis; 4) finding related literature (only five references) and summarizing the major findings in a short essay as a literature review.

*5.6.2.1.5 Phase One of the Experiment.* **Pre-test one:** The aim from administering a pre-test is to measure the level of the students, both CG and EG, on the dependent variable, that is in the case of this study knowledge of research knowledge and research skills before the treatment. It is designed by the researcher herself but it was checked for internal validity by two teachers from the same department. Teachers' comments were mainly on the wording of the questions which we take into account and we made necessary modifications. The test (appendix F) is administered to students on 16/12/2020, in a session other than the ones scheduled for teaching.

The test is made up of three activities. Activity one is set to test students' knowledge of the following areas of research methodology: meaning of scientific research, the research process, research problem, hypothesis, objectives, and literature review. Six questions are asked to cover these areas. Activity two is aimed at testing students' ability to recognize: research problems, independent and dependent variables and research population; and to write a research hypothesis for the identified research problems from the abstract provided in this section. Activity three tests students' research skills in writing a research problem in a form of a research question and in finding the most suitable method of research to answer this question.

Treatment One. Tutorial one: on the 22/12/2020 we started the first tutorial. At the beginning of this tutorial the researcher handed students a copy of the tutorial sheet (see appendix P), a copy of Group Information Sheet for Research Methodology Project (see appendix K), a copy of Research Methods Project: Peer Evaluation (see appendix L), and a copy of Group Feedback on the 1st phase and 2nd phase tutoring meetings (see appendix M). The researcher explained to the students what they do with each copy in 5 minutes and asked them to keep their questions about these copies to the end of the tutorial. After this, the researcher explained briefly the content of lecture one" **Research Methodology-in a nutshell**" and asked students to work in groups to do the first tutorial which we named *"Clearing Our Vision on Research Methodology"*. At the top of the tutorial worksheet, the tutorial objectives are stated explicitly to make students know what they will gain after doing the tasks of the tutorial. Students are asked to decide on a leader who will be responsible to explain the activities in the tutorial. The role of the teacher is to explain the tasks that are not clear to students, to observe students' interactions, and to guide both group and class discussions. Students were kept actively

engaged through the tutorial period and the focus was on learning rather than teaching. In groups, students have done five tasks related to lecture one.

At the end of this tutorial, students are assigned a homework which is composed of two parts: a group task and an individual task. The group task is about interviewing an expert in the department of English language and literature in our university or elsewhere about their research career. The aim from this task is to motivate students to conduct research by getting inspired from these experts and to get some ideas on research topics. The individual task is about asking students either to go to the library or consult the online website of the university library and find five interesting research topics from MA dissertations or PhD theses. The purpose from this task is to make students familiar with research topics in their field of study and also to know the researchers in our department for especially methodology help for their future MA dissertations. In addition, students were asked to summarize each lecture prior to class time and prepare in groups three questions for class discussion.

**Tutorial Two:** On 29/12/2020 the second tutorial took place. It was entitled **"Selecting a Research Problem and Identifying Variables**". As its name suggests, this tutorial aims at leading students through the first step of conducting a research project. Students have already gathered some ideas about research topics through the assigned homework and they were asked to summarize the content of the second lecture. Before the start of the tutorial, the teacher checked both group and individual home works; she briefly explained the content of lecture 2; and she handed each group of students a copy of the second tutorial worksheet. In this tutorial, students of each group are asked to discuss the research topics they have chosen from the department's previous dissertations and theses. After this, they discuss why they are interested in these topics and try to find common interests. The teacher then asked them to choose three topics

out of the 9/12 topics (each students has been asked to bring three). Then, students were asked to list all variables that are mentioned in the chosen topics and classify them as dependent and independent. As a last task, students were asked to write a research topic out of these variables which of course has the characteristics of a researchable problem, write a precise research question, and each student should contribute by at least a sentence to write five lines statement of the problem.  In this tutorial, students were more active and they felt that one hour was not enough, so most of their questions were answered either via email or through the Google classroom platform. At the end of this tutorial, students were also assigned a homework which was about using a checklist to evaluate their research problems. We can say that research ideas taken from this tutoring meeting would give context for the upcoming steps of the research process.

**Tutorial Three:** on 05/01/2021 students took the third tutorial which was about "**Determining objectives and Setting Hypothesis**". Before the start of the tutorial, the teacher asked the students to write their chosen topics in clean piece of paper, underline their variables, and state which one is dependent and which one is independent. The teacher checked students' summaries of the third lecture; she explained briefly the content of this lecture; and then she handed each group of students a copy of the third tutorial worksheet. In this tutorial, students were asked to generate three research objectives for their research topics and write one possible directional hypothesis. Each leader of a group is asked to come in front of the class, speak about the chosen topic and ask the other students about what possible objectives and hypothesis they can determine. At this moment the group members of the leader wrote all suggestions and they would later discuss them together and choose the most significant ones for their study. All the leaders have presented their topics and we enjoyed a critical class discussion. At the end of the

tutorial we asked each group of students to download three research papers which are relevant to their research topics from Google scholar by typing key words (variables) of their topics to get prepared for the next tutorial which will be about reviewing the literature.

**Tutorial four:** This is the last tutorial for the first phase of the treatment and it took place on 12/01/2021. It is about **"Reviewing Relevant Literature".** At the start of the tutorial, the teacher checked the papers brought by the students; some of them have printed the papers and others have electronic versions in their mobiles and tablets. The teacher explained for 20 minutes about what a literature review is and how we write one. The task seems difficult for the students but the teacher assured them that after the tutorial everything would be fine. The tutorial guided students via five steps to read, analyze and summarize each reference systematically. The focus was to acquaint students with different parts of the paper, and make them find major themes and findings discussed. Later, students are also asked to classify the themes under their dependent and independent variables. At the end of this tutorial, students were asked to prepare a document that looks like a proposal, but with few elements, including a research topic, statement of the problem, research question, three research objectives, a hypothesis, and a five medium-size-paragraphs essay on the literature reviewed from five sources relevant to their topics. This document was handed electronically via email after 2 weeks time from the last tutorial.

*Post-Test One.* We administered this test just after the fourth tutorial; that is on the 12/01/2021. The test lasts for 30mminutes and both EG and CG took the test. The test evaluates both research methodology knowledge development and research skills acquired either through purely traditional didactic method of lecturing (CG) or through interactive tutorials (EG). The test is composed of two parts (see appendix G ). Part one is composed of 4 direct questions on concepts dealt with during lectures and tutorials. The aim is to test students' knowledge and

comprehension of key research methodology concepts such as research problems (quantitative/qualitative), research hypothesis, and dependent and independent variables. The second part tests students' ability to apply their knowledge and identify a research problem and research variables after reading a research scenario. Then, students were asked to create / write a research question, two objectives, and a hypothesis for the identified problem.

**5.6.2.1.6** *Phase Two of the Experiment.* From the 15/01/2021 to 01/04/2021 students have taken their first semester exams and stayed at home. On the 4/04/ 2021 they came back to their studies. The EG was informed that that they would carry on the experiment and during the stay home period they have downloaded the left other four lectures.

*Pre-test Two.* We administered the second pre-test (see appendix H) of the second phase of the treatment to both the EG and the CG in the same day; that is on the 04/04/2021. The time spent to do the pre-test is 30 minutes. The test covers content of the second semester lectures such as quantitative/qualitative and mixed methods research designs, data gathering tools (questionnaires & interviews), data analysis, data discussion, and writing up the research paper. The test is composed of eight direct questions on these topics.

*Treatment Two*. **Tutorial five:** On the 06/04/2021 we carried on the series of interactive research methodology tutorials with the experimental group. At the beginning of the fifth tutorial, students were reminded of what has been done so far in the previous tutorials through class discussions, and students were asked to keep with the same research problems chosen in the first phase of the treatment. In this tutorial, students were instructed on **"The Study Design".** Students brought their summaries of the lecture, so it was easy for them to follow the instructor's explanation. After 15 minutes of explanation, the teacher answered student's questions for 5

minutes and handed a copy of the fifth tutorial worksheet to each group of students. The students are supposed to create a study design for their topics by answering eight questions. By answering these questions, students will know better how to gather empirical data for their studies. Groups discussed their answers to these questions according to their research topics, and at the end of the tutorial each group leader presented the design of his/her group study. The purpose from the presentation is to share more ideas about different types of study designs.

**Tutorial six:** This tutorial took place on 13/04/2021 and it was about teaching students how to design their **"Data Gathering Tools".** At this tutorial, the tutor asked the group leaders to explain to the other students the following data gathering tools: questionnaire, interview, focus group, observation, and document analysis. The explanations took 20 minutes and the teacher explained the difference between quantitative and qualitative tools for 5 minutes. For half an hour students were asked to design their own questionnaire following a model given by the teacher. The students were asked to start designing their questionnaires in class and send their questionnaires via email for feedback before submitting them to their research populations. During this tutoring session, we have worked on the titles, the introductions, the major sections, and the types of questions that can be asked in a questionnaire. What was left for the students to do when they go back home was to fill the sections with relevant diversified questions. Before the end of this week, all students sent their questionnaires and received final approval to either print or type the questions in Google form and administer the questionnaires to a sample of just ten students. Students were asked to gather the questionnaires before the next tutorial. Students were highly motivated to see the answers of the other students to their questionnaires.

**Tutorial seven:**  This tutorial took place on 20/04/2021 and it was devoted to "**Data Analysis and Discussion"** step of research. The teacher checked all students answered questionnaires

(printed and electronic) and explained briefly the tasks of data analysis (turning words into numbers (quantitative), and exploring major agreements (qualitative)) using simple descriptive statistics, interpretation of the results, answering research questions, and commenting on the hypothesis. All group members were active analyzing the answers to their questionnaires and the researcher moved from one group to another to check how things are done and to answer students' questions. Students were deeply immersed in this task to the extent that they forget about class time. Time was not enough to analyze all the questions and the teacher asked them to carry their analysis back home and send both data analysis and discussion parts to the teacher's email. Students' analyses were well done but their discussion parts were not adequately written. That is why the teacher decided to explain again this point in the next tutorial.

**Tutorial eight:** This is the last tutorial of the treatment and it took place on 27/04/2021. The aim from this tutorial is to instruct students about how to disseminate their findings of their research projects. The different parts of the small project were explained one by one starting from the front page to the references. The teacher relied on class discussion to explain each point because students have been already exposed to all steps of research in the previous tutorials. Much emphasis was put on especially literature review and discussion parts as students have asked more questions on both of them. In addition, the teacher summarized important rules of citing and referencing using the APA style and the summary was uploaded later to the research methodology Google classroom. The teacher asked students to submit either printed or electronic version of their research projects in 3 weeks time.

*Post-test Two*. At the end of the treatment both the EG and the CG sat for a second post-test (see appendix I). For two days (28 and 29/04/2021), each sub group took the test for one hour. The teacher invigilated the test herself. Students were given a data analysis part of a

research paper and they were asked to write a data discussion part in an essay of five paragraphs. All research elements were evaluated because students were supposed to restate the research problem, research question (variables), hypothesis, objectives; they had to answer the question according to their interpretation of the results of the analysis; and they needed to summarize the findings and to suggest a conclusion.

*5.6.2.2 Classroom Observation.* In addition to tracing students' research knowledge and skills development through testing, classroom observation was also employed to record students' performance for further insights about their development. According to Henning et al. (2009) systematically observing students' natural behaviours "…can provide insight into the content knowledge of students, the students' ability to elaborate, and the quality of student-to-student interactions." (p. 61). In this study the focus of the observation is to present a vivid picture of students' interactions during the tutoring sessions. In other words, our objective from using this data gathering tool is to find the extent to which students are really cooperatively learning about research methodology through the interactive tasks of the tutorials. We have designed an observation grid to specifically observe students' interactions while performing the tasks of the tutoring meetings. The observation grid evaluates students' interactions on a five point scale (from very interactive to passive) (see appendix E).

## 5.6.3 Tools Used after the Intervention

*5.6.3.1 Group Evaluation Forms.* At the end of each phase of the treatment, students were given "Group Evaluation Form" (see appendix M) on the tutorials. This one side-evaluation form is designed by the researcher and it aims at fostering more interactions among the students by sharing their opinions about the tutoring meetings. More importantly, this evaluation form is

used to measure students' perceptions of their learning experiences from these tutorial meetings. The evaluation form is a tool to guide students' reflection on each tutorial. Each group of students rates each tutorial meeting on ten criteria using five-point scale (from highly unfavourable to highly favourable). At the bottom of the evaluation form the word "other comments" was added in order to give students a free space to say anything about the tutorials that the criteria may not cover, and of course a thanking note was also put at the end of the form. Indeed, students' evaluation of the interactive tutorial meetings was highly important. Students know ahead of time that they should turn their evaluation forms just after each phase of the treatment. Hence, their evaluations of the first stage of the intervention (four tutorial meetings) helped in modifying the structure and presentation of the second stage tutorial meetings. In addition, the overall evaluation forms would give the researcher insights on the ups and downs of the treatment for better improvement and replication of the study. Both quantitative and qualitative analysis of students' evaluation forms will be presented in the next chapter.

*5.6.3.2 Post-Experiment Questionnaire.* After completion of the classes scheduled for the experimental intervention (end of the academic year, May, 2021), the researcher emailed all experimental group students (30) a questionnaire (see appendix N). This questionnaire functions as an evaluation tool of the students' experiences in learning about research methodology in classes taught by interactive teaching methods. The researcher had access to students' email addresses through the Google classroom platform. The latter was created at the beginning of the academic year (2020-2021) with the aim to encourage more interaction among students and interaction with the teacher. In addition assignments were published in this platform and students' questions were answered here. Because of the COVID-19 health protocol students are asked to keep distance with each other, so we created this online space to keep students close to

each other all the time and to make them share their learning experiences about research methodology.

*5.6.3.2.1 Description of the Evaluation Questionnaire.* Four sections made up the layout of this questionnaire. The first section is entitled "The content covered during tutorials" and it is composed of 6 questions of different types (Likert scale, MCQ, yes/ no and explain, and open-ended). In the second section, students were asked also six questions about their interaction during tutorials. The questions varied between MCQ, yes/no and explain, and open ended formats. Section three aims at asking questions about students' research knowledge and skills development through conducting research projects and it consists of 6 questions (Likert scale, yes/ no and explain, and open-ended). Section four is composed of one Likert scale question and one open-ended question. This section aims at knowing the participants' opinions about the teacher and the classroom management in general during the experiment. The response rate is low compared to the one of the pre-experiment questionnaire, and 20 out of 30 who hardly emailed their answers.

## 5.7 Measurement of the Study Variables

The overall aim of this study is to upgrade students' research methodology content knowledge and research skills development, and attitudes change towards the course of the research techniques course. To achieve this aim we opted for a more interactive teaching method. After the intervention, it is logical to assess its effectiveness in developing participants' research knowledge, skills and attitudes. Both qualitative and quantitative means were used to find about the development/no development of these variables. Before the intervention these variables were surveyed by a pre-experiment questionnaire and the results of which will be compared with ones

of a post-experiment questionnaire. In addition students were tested before and after the intervention (two pre-tests and two post tests because the experiment was divided into two phases) and the results of these tests will be also compared. The teacher's class observation also determines the effectiveness of the new teaching model in making students interactive during each tutoring session.

Table 7

*Rating Students' Research knowledge and Skills Development Rubric*

| Criteria | Marking rubric | | | |
|---|---|---|---|---|
| | Level 1 (low achievement) (0-5) | Level 2(below average) (5-10) | Level 2 (average) (10-15) | Level 3 (above average) (15-20) |
| **Identifying a research problem** | Students have no idea about formulating research problems | Students write wrong research problems | Students write correct research problems | Students are able to come up with interesting research problems |
| **Determining research objectives** | Students do not know what research objectives are. | Students write wrongly structured research objectives | Students write well structured research objectives but they are not related to the research problem | Students are able to produce well written research objectives closely linked with the research problem |

| | | | | |
|---|---|---|---|---|
| **Writing a hypothesis** | Students do not know how to write hypotheses | Students write wrongly structured hypotheses | Students write well structured hypothesis but it is not logically determined | Students are able to write theoretically sound hypotheses |
| **Reviewing the literature** | Students have produced small paragraphs explaining just one aspect of the research problem | Elements of the literature review are not all covered | Students respected the elements of the literature review but they did not produce a comprehensive review. | Students produced excellent literature reviews meeting the required standards. |
| **Deciding on a research design** | Elements of a study design are not covered | Students cover some aspects of the study design but still others are missing. | Students respect the elements of study design, but the produced designs are not feasible | Students are able to produce designs that best fit their research problems |
| **Data analysis and discussion** | Students' analysis is not systematic (it is subjective and do not reflect respondents' answers of the questionnaire) - Students do not respect the discussion part | Students do not respect the rules of data analysis (data are not presented in tables) - Students' discussion lacks some elements. | Students analyse the data adequately but they produce incomprehensive discussion | Students skilfully used both quantitative and qualitative techniques to analyse their data and they are able to produce comprehensive discussion |

| | | | | |
|---|---|---|---|---|
| | elements. | | | |
| **Writing up the research report** | -The elements of report are not all mentioned<br>-the order of the elements in the report are not respected<br>-the elements covered are not well written<br>-Plagiarism is found<br>-No Application of the APA style | All elements of the research report are mentioned.<br>- The content covered under each element is not well written.<br>- Plagiarism is found<br>-No Application of the APA style | Students fully respect both the number and the order of the elements of the research report.<br>-No plagiarism is identified.<br>-The APA style is not applied. | Students fully respect both the number and the order of the elements of the research report.<br>-No plagiarism is identified.<br>-The APA style is fully applied |

## 5.8 Validity and Reliability of the Instruments

In any educational study the researcher should be very cautious as far as validity and reliability of the quantitative data gathering tools are concerned. "Validity is about whether a test (or measure of any kind) is really measuring the thing we intended it to measure" (Langdridge & Hagger-Johnson, 2013, p. 51). Hence, a valid instrument should measure what it claims to measure, so the questionnaires and the tests (pretests and post-tests) should be tested for validity. To establish this, all instruments were validated by experts in both ELT and research methodology teaching (all of them are from DELL, Batna 2 University. Most of the experts' comments were mainly about the language and organization of the questions.

On the other hand, "Reliability refers to the consistency of scores, that is, an instrument's ability to produce "approximately" the same score for an individual over repeated testing or across different raters" ( (Lodico, Spaulding, & Voegtle, 2006, p. 87). The same experts assured that the tests are reliable to assess students' KRM and RS development. In addition, they agreed on the relevance of the questions of the questionnaire to the issue of the current study. Both reliability and validity are established during the stage of piloting both the questionnaires and the tests of the experiment.

## 5.9 Data Analysis Procedures

In approaching the issue of research methodology teaching in this study we have relied on a mixed methods design and triangulation of data gathering tools. Accordingly, data gathered are both qualitative and quantitative and this requires adequate measures of analysis. In addition, the type of instrument used to collect data indicates the means which enable effective organization, analysis, and interpretation of the data. So, making sense of information gathered from different sources through different tools requires adequate steps of analysis. All categories of instruments used in this study, as explained in the previous sections, are either quantitatively or qualitatively analyzed following systematic procedures.

## 5.9.1 Qualitative Data Analysis Procedures

Data gathered from coordination meeting with teachers, open-ended questions of the teacher's questionnaire, focus group discussion with students, and open-ended questions of students' questionnaires, are analyzed qualitatively using content analysis. The latter is one the techniques to approach qualitative data and which "…involves coding data in a systematic way in order to discover patterns and develop well-grounded interpretations." (Mackey & Gass, 2012,

p. 191). So, systematic categories are coded and discussed out of these tools of investigation. It is again mentioned in the next chapter to highlight the tools and the questions that are qualitatively analyzed through content analysis technique.

### 5.9.2 Quantitative Data Analysis Procedures

The analysis of the quantitative data in this study is concerned mainly with the analysis of the questionnaires (designed for both teachers and students), the experiment results, observation grid, and evaluation forms. Analysis of numerical data generated by these instruments requires adequate techniques which systematically lead to statistically significant results. Hence, in this study we have used simple descriptive analysis and both descriptive and inferential statistics. For statistical analysis, the Statistical Package of Social Sciences (SPSS), version 23.0 is used. This software is used to measure the central tendency values mainly the mean ($\bar{\mathbf{X}}$) and the standard deviation (SD) of both the CG and the EG in all the tests (pre-tests, posttests, proposals, and projects). Comparison of these values requires the use of the parametric independent sample *t*-test to test the null hypothesis of this study. In other words, this test permits for finding whether there is a significance difference in the mean scores between the independent samples (CG and EG) and whether the difference is due to chance or not. In the context of this study, this test will help evaluate the effectiveness of interactive tutorials in developing students' research methodology knowledge and research skills. We set the conventional significance value to 5 per cent (alpha level ($\alpha$) < or =.05) ($p \leq 0.05$); that is, for 95% the null hypothesis is rejected.

The results of both qualitative and quantitative analyses are to be jointly interpreted in order to critically answer the research questions and achieve the research objectives.

## 5.10 Ethical Considerations

Conducting research with especially human subjects requires more caution about ethical concerns. The current research study was carried out at the department of English language and literature, Batna 2 University, and conducting research with third year LMD students in the academic year of 2020/2021 was approved by the head of the department. Consents of verbal approval were also made by the students.

In times of the standard exams or time breaks, students were not involved in any activity of the present research study. However, interactivity was kept going through the Google classroom platform. Students have to prepare their research proposals (first term) and research projects (second term), so we (the students and me) were available all the time to help.

As far as the mode of recording data is concerned, Videoing students' interactions during tutorials would add more value and credibility to the results but since students did not accept to be video recorded, we respected their willing and we were just satisfied with class observation.

In addition, identities of students are kept hidden throughout all the thesis pages and students were assured that their names would remain anonymous. Students' names were replaced by numbers especially for the pre and post tests. So, data gathered from the participants were kept confidential.

Another critical ethical consideration is made at the level of students' scores; students were made aware that their scores in the pre-tests and post-tests will, by no means, influence their grades of the course. Students who participated in the tutorials were assessed using portfolio including individual and group assignments and scores of the research proposals for the first semester and the scores of the research project for the second semester. For the control

group students, course grades were counted on just their performance in the proposals for the first term and their performance in research projects for the second term.

Since the study is carried in the times of the COVID-19 pandemic, students' health issues were highly considered. Social distancing was respected and though students worked in groups, they kept wearing masks all the time and each student sit a bit far from each other. Students were allowed to speak out loudly to discuss their answers to the tutorial tasks. Tables and chairs were sterilized all the time. Upon completion of the treatment no one was contaminated and no one was registered sick. Students were always asked to feel free not to come to class if any of the symptoms of this virus are observed.  To sum up, ethical issues that should be respected for this study were accounted for.

**Conclusion**

All in all, in this chapter explanations and description of the researcher's methodological choices were presented. The type of the research conducted in this study was justified and a blueprint of how the research was conducted was described under the research design section. All possible information was provided on the participants of the study and the tools used to gather data from them. Accounts of the validity and reliability of these tools were also made. The major part of this chapter was devoted to the description of the experimental intervention which set to test the effectiveness of an interactive teaching model on enhancing students' research methodology content knowledge, research skills and attitudes toward research.

*Chapter Six: Data Analysis and Discussion of Results*

## Chapter Six: Data Analysis and Discussion of Results

**Introduction**

This chapter is meant to present detailed analysis of the data gathered from all data gathering tools described in the previous chapter and to interpret the emerging results. Quantitative and qualitative strategies of analysis are employed to unveil all the dimensions of the research issue under investigation and to answer the research questions of this study. So, in this chapter data collected from tools used before, for, and after the treatment will be reported using suitable analysis strategies. Much space and effort were devoted to the analysis of the data gathered from the quasi-experimental design. After the detailed analysis of the data gathered from these tools, results of the analyses will be interpreted on the light of both the literature highlighted in the theoretical part of the research study and the logical reasoning of the researcher. Answers to the research questions of the study and the results of hypothesis testing will be also reported.

The sequence of data presentation in this section is determined by the chronological order of data gathered for this study. That is, we will analyze data gathered before the intervention (descriptive data), data gathered from the intervention [experimental (treatments, pre-tests, and post-tests)], and data gathered after the intervention (descriptive).

**6.1. Analysis and Discussion of Data Gathered from Instruments Used before the Intervention**

The data gathering tools used at this exploratory stage are: teachers' questionnaires, coordination meeting with teachers, students' questionnaire, and a FGD with students. Both quantitative and qualitative strategies of analysis are used.

**6.1.1. Analysis of the Teachers' Questionnaire**

As it has been described in the previous chapter, three permanent teachers of research methodology at the department of English language and literature, Batna 2 University, answered a 35 items questionnaire. The analyses of their answers are presented as follows:

*Part 1: Demographic Information*. Table 8 summarizes teacher's answers of this section (5 items)

Table 8

*Teachers' Demographic Information*

| Gender | | Qualification | | Field of research | | research laboratory | teaching research methodology experience | |
|---|---|---|---|---|---|---|---|---|
| Female | Male | Magister | PhD. | Linguistics | Didactics | No | 1-5 years | More than 5 years |
| 2 | 1 | 1 | 2 | 2 | 1 | 0 | 2 | 1 |
| 66.66% | 33.33% | 33.33% | 66.66% | 66.66% | 33,33% | 0% | 66,66% | 33,33% |

The above table presents general information, and relevant to this study, about the teachers' who are teaching research methodology to third year students at the department of English language and literature, Batna 2 University. It shows that the three teachers' (2 females and one male) experience in teaching research methodology can be considered short with one novice teacher (one year of teaching this subject). However teachers on the other hand are experts in the field of research (two teachers holding a PhD. degree and the other one holds a Magister degree and he is in the final stages of his PhD. degree). But it seems that no teacher

belongs to any research laboratory in Algeria or abroad which, we believe, may influence their research career. Teachers are specialized in linguistics and didactic studies.

### Part 2: Overall Research Methodology Teaching Experience.

### Item 6.  Reasons to Teach Research Methodology

Table 9

*Reasons to Teach Research Methodology to Undergraduates*

| Response | Number | Percentage |
| --- | --- | --- |
| It is an interesting subject to teach. | 1 | 33.33% |
| It does not require so many efforts to teach | 0 | 0% |
| It helps you in your field of research. | 1 | 33.33% |
| It is a left over subject that is not much chosen by other teachers. | 0 | 0% |
| Others, please specify | 1 (administration decision) | 33.33% |

Table 9 shows that teachers differ in their reasons to teach research methodology. One teacher sees that RM is an interesting subject to teach, so her choice is driven by interest. Another teacher believes that teaching RM to undergraduates can enhance his knowledge and skills of RM, hence it facilitates the task of research. The third teacher indicates that it is not her choice but it is assigned by the head of the department.

### *Item 7.  Course Difficulty*

Table 10

*Course Difficulty According to Teachers*

| Response | Very difficult | Difficult | Medium | Easy | Very easy |
|---|---|---|---|---|---|
| **Number** | | 2 | 1 | | |
| **%** | | 66.66% | 33,33% | | |

When asked about the difficulty of teaching research methods to third year students, teachers agree on the fact that RMT is difficult. As it is show in table 10, 2 teachers (66.66%) considered this course as difficult to teach, but one teacher rates the difficulty of the course as medium.

### *Items 8 & 9. Students' Level of Achievement and Motivation*

Table 11

*Students' Level of Achievement and Motivation*

| **Item** | | | | | |
|---|---|---|---|---|---|
| **Level of achievement** | **Excellent** | **Above average** | **Average** | **Below average** | **Very poor** |
| | | 1 | 1 | 1 | |
| | | 33,33% | 33,33% | 33,33% | |
| **Motivation** | Highly motivated | Motivated | Moderately motivated | slightly motivated | Not motivated |
| | | 1 | | 1 | 1 |
| **%** | | 33,33% | | 33,33% | 33,33% |

It is clear from this table that teachers hold different views as far as their student achievement level and motivation are concerned. Motivated students are seen to achieve above

average or average results while unmotivated students achieve below average results. So the lack of motivating environment to learn research methodology can hinder the success of the teaching-learning process.

### Item 10. Time Allotted to RM Course

Table 12

*Time Allotted to RM Course*

| Response | Very sufficient | Sufficient | Moderate | Insufficient | Very insufficient |
|----------|-----------------|------------|----------|--------------|-------------------|
| **N** | | | | 2 | 1 |
| **%** | | | | 66.66% | 33.33% |

Teachers agree that the teaching time of the RMC is not sufficient to cover the course content. Indeed, one hour and a half RMT to undergraduates is insufficient especially that this course requires both deep explanation of the technical concept and intensive practice to develop students' knowledge of research methods and research skills simultaneously.

### Item 11. The Official Research Techniques Program and Teachers' Expectations

When asked about whether they have checked the Official Research Techniques Program, teachers are aware that there is no such document at the level of the department or at the level of other universities' departments. Thus, teachers rely in designing their syllabus on research methods books (not textbooks) and syllabuses of other universities. Teachers have also asserted that they have checked with their colleagues their syllabuses during coordination meetings.

### Item 12. Major Innovations Made by Teachers to Upgrade the Quality of RMC teaching

This qualitative question aims at finding about the main efforts made by teachers to promote their teaching of RM over the course of their teaching experience.  Two teachers said that they opted for workshop method and tried to make the course to sound practical rather than just theoretical. Another teacher said that she tried to make the content less technical and simplified the research process steps to her students. It seems that teachers do not report any special innovation in teaching RM course. Indeed, teachers' answers to this question are shallow and they do not show any striking point to be considered as a real innovation in the field of RM teaching.

*Item 13. Teachers' Attitudes toward Research Methodology Teaching to Third Year Students*

From their teaching experience of the RM subject, teachers reported a change of attitudes. At the beginning of her teaching career, one teacher said that her attitudes toward teaching this course were negative because her students were not motivated but later she developed more positive attitudes because she became more satisfied about her teaching. Another teacher said that he developed positive attitudes right from the beginning because he is interested in the subject of RM per se though his students did not like the subject so much (he said because it is scientific and most of the students came from literary field of study. The novice teacher said that her attitudes toward teaching this subject are positive and justified this by the fact that her "students are interested into the subject and eager to learn about research and how to conduct one". All in all teachers of research methodology, at this department, develop positive attitudes toward the RMC and it seems that they enjoy the teaching of this subject in spite of its difficulty.

**Part 3: Teaching Methods and Strategies.**

**Item 14 &15. Chosen Teaching Methods for RMC and Their Effectiveness**

Table 13

*Teaching Methods Teacher Employ in RM Course*

| Method | Number | % |
|---|---|---|
| Lecturing | 3 | 100% |
| Seminars | 0 | 0% |
| Workshops | 1 | 33.33% |
| Tutorials | 1 | 33,33% |
| Others, please specify | 0 | 0% |

This table indicates that the preferred teaching methods for the three teachers are mainly lecturing, workshops and tutoring. The same teacher uses both tutoring and workshops in her teaching but the other two teachers use only lecturing. One teacher justified that the time allotted to the course and the huge number of students in each class weakens the effectiveness of these teaching methods.

**Item 16.  Time Distributed On Class Activities**

Table 14

*Time Distributed on Class Activities*

| Class activity | 0-25% | 25-50% | 50-75% | 75-100% |
|---|---|---|---|---|
| Lecture presentation | 1(33.33%) | | 2(66.66%) | |
| Class discussion | 1 (33.33%) | 2 (66.66%) | | |
| Group | 2(66.66%) | 1(33.33%) | | |

| discussion | | |
|---|---|---|
| **Peer discussion** | 3 (100%) | |
| **Individual assignments** | 2 (66.66%) | 1(33.33%) |
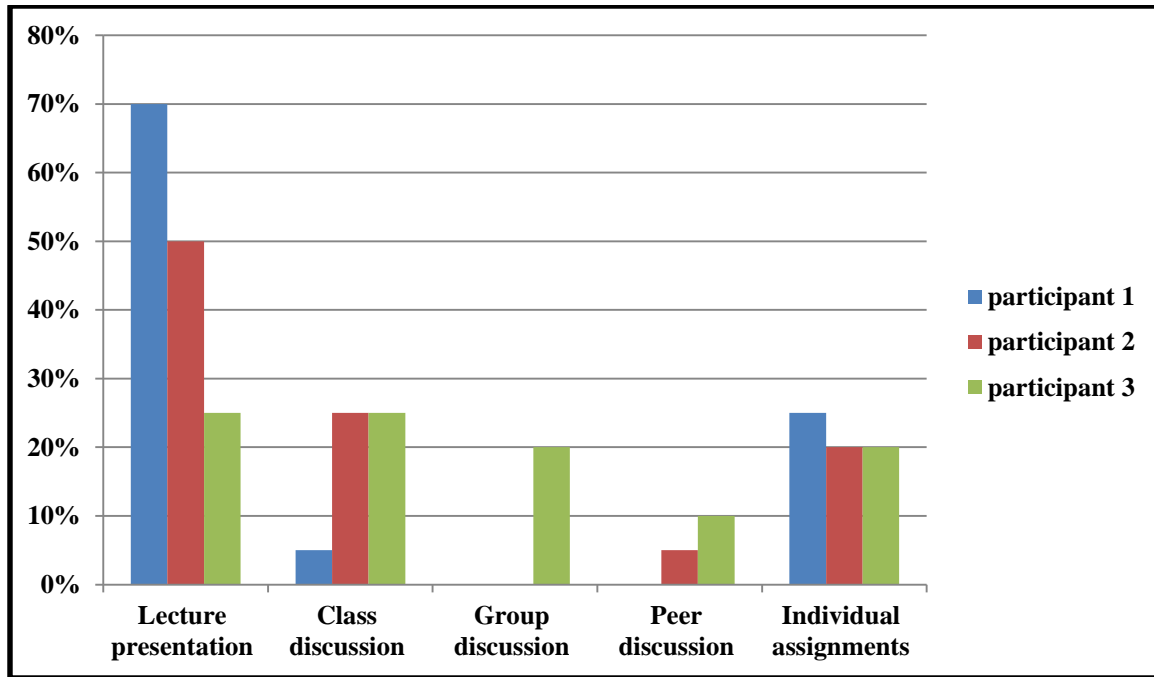


*Figure 8* Time Distributed on Class Activities

From the above table and figure, it is clear that the teachers differ in how they distribute class time on their class activities. Giving much time to lecturing indicates less time for the other tasks. For example the first participant devoted 70% of the class time to lecturing, 0% for both group and peer discussions. In addition, both participants 1 & 2 devoted very little or no time for group an peer discussions. The second rated activity after lecturing is individual assignments (20 % & 25%). The third participant, though focusing on lecturing (50%), seems to employ class discussion, group discussion, and peer discussion, in her teaching. Peer discussion is either completely abandoned from the teacher's schedule or slightly used. Class discussion seems also

to be appreciated by two teachers but one teacher adopts teacher-centered teaching and his students barely contributed to class discussions (5%).

In **item 14** teachers were asked about the teaching methods they use in RMC, and the three teachers said that they use workshops and one uses also tutorials. Both workshops and tutorials require students to work in groups or at least in pairs, but surprisingly 2 of them devoted 0 time for group discussion and 0 or very little (5% or 10%) for peer discussion. This result indicates that the teachers who have said that they use workshops and tutorials in their teaching are contradicting themselves by this class-time division on the proposed activities especially the ones that are related to group and peer discussions.

### *Items 17 & 18. Teaching focus*

When asked about on their teaching focus, the three teachers confirmed that they do not only aim at covering syllabus content but also assuring students' learning. Teachers said they rely on a mixture of teacher-centered and learner-centered teaching methods to cover content, achieve objectives, and guarantee students' learning.

### *Item 19. Incorporation of Particular Tasks in Teaching*

Table 15

*Teaching Tasks Used In RMC*

| Statement | Very often (in all sessions | Often (in almost all sessions) | Sometimes (in a couple of sessions) | Rarely (in one or two sessions) | Never |
|---|---|---|---|---|---|
| 1. I explicitly state learning objectives. | 2 | | | 1 | |
| 2. Students work in groups to do tasks and solve problems**.** | **1** | | 2 | | |
| 3. Students evaluate | | | 2 | | 1 |

| | | | | |
|---|---|---|---|---|
| and reflect upon their own work. | | | | |
| 4. I check, by asking questions, whether or not the subject matter has been understood. | 2 | 1 | | |
| 5. I review with the students the homework they have prepared. | 2 | | 1 | |
| 6. I administer a test or a quiz to assess students learning. | 1 | | 1 | 1 |
| 7. Students work individually with worksheets to practice newly acquired knowledge. | | | 1 | 2 |

Analysis of table 15 requires close examination of each statement. For the first statement two teachers agree that it is very important to explicitly state learning objectives in all class session, but one teacher said he rarely does this. Statement 2 again emphasizes the incorporation of group work type of tasks and solving problems together. This again confirms teachers' answers of item 14 that only one teacher very often assigns students group work tasks. In the next statement teachers sometimes or never have their students reflect on their own tasks. Teachers said that they often check their students' learning by asking question to the whole class (statement 4).  Two teachers confirmed that they very often review their students' homework, but one teacher said that he does this sometimes (statement 5). As far as summative assessment is concerned, statement 6 questions the use of a test or a quiz to assess students learning, and teachers differ in this regard. One teacher very often does this, which seems quite impossible, but

the other two teachers said that they do this sometimes or rarely. The last statement asks about

the amount of time devoted to individual practice through doing activities. Teachers rarely adopt

this strategy in their RM teaching. We believe that teachers should be aware of these tasks

(described in each statement) because they play a significant role in shaping their overall

teaching method.

*Item 20. The Importance of Keeping Students Active and Interactive*

Table 16

*The Importance of Keeping Students Active and Interactive*

| Option | Very Important | Important | Moderately Important | Slightly Important | Not Important |
|--------|----------------|-----------|----------------------|--------------------|---------------|
| N + % | 1 (33.33%) | 1(33.33%) | 1 (33.33%) | | |

This last item in the third section of the questionnaire asks teachers to rate the importance

they give to keeping their students active and interactive in a RM teaching session. It is observed

that teachers differ in how they see the importance of interactivity in class. Two teachers

considered that it is highly important or important to keep students active and interactive in their

sessions. The other teacher said that the moderately gives importance to this aspect of teaching

and it is justified by devoting much of his class time (70%) to lecturing.

**Part 4: Material design and development**

Item 21. RM Syllabus Design

Teachers were asked in the second section of this questionnaire about reading the detailed

program that is supposed to be issued by the ministry of higher education, but unfortunately there

is no one for Research Techniques module. So, teachers are left to their own choices in terms of

both objectives and content of the course. Hence, when the three teachers were asked about RM syllabus, two teachers said that they have self-designed their syllabus with consultation of their colleagues, but one teacher  said that he uses an already existing syllabus (of one of his colleagues) with some modifications. But the syllabuses of teachers cover almost the same content and set to achieve the same objectives (it will be explained further in the analysis of the coordination meeting).

### Item 22.  Students' Needs Analysis

When questioned about considering their students' needs in their syllabus designs, teachers answered differently. One teacher thought that it is not important to know what the students know and what they do not know; he was just concerned with what they should learn at this level. Another one answered by saying "yes" without any further explanation. The third teacher agreed on the fact that needs analysis is important for syllabus design, but she did not mention whether she uses it or not.

### Items 23 & 2 4.  RM Teaching Materials Shared with Students

Table 17

*RM Teaching Materials Shared with Students*

| Material | Teachers (N) | Percentage % |
|---|---|---|
| **Handouts** | 3 | 100% |
| **PPTs** | 1 | 33.33% |
| **Chapters from books** | 3 | 100% |
| **Research papers** | 2 | 66.66% |
| **Websites (and other electronic sources)** | 2 | 66.66% |

It is observed from table 16 that teachers rely mainly on prepared handout and some chapters of RM books to develop their students' knowledge and skills of research methodology. It is also obvious that teachers at least share with their students' their own websites especially at this period of the COVID-19 pandemic. Tow teachers seem to use Power Point Presentation as they have claimed that they share PPTs with their students. Making students read also can be done through assigning students some particular research papers and this is the case of two teachers. Teachers use their websites and professional emails to share with their students RM related materials. One teacher said that the classroom and the website are very enough means to share anything with our students and no need for other communication means (he means social media or other academic online applications such as Google Classroom).

### Item 25. Reading about Research Methodology

Table 18

*Rating Sequence of Assigning Students Academic Reading*

| Option | N | % |
|---|---|---|
| **Yes, Always** | 1 | 33,33% |
| **Yes, sometimes** | 1 | 33,33% |
| **Yes, occasionally** | 1 | 33,33% |
| **No, but I will** | | |
| **No, I will not.** | | |

This item is related to the previous one in the way that it asks about how often RM teachers ask their students to do extra reading about RM to develop their knowledge of this subject. In the previous element teachers mentioned different types of materials that their students are supposed to read and it is confirmed by this item that teachers give importance to

academic reading about RM. However, teachers differ in the degree to which they focus on this activity. One teacher says that she always does this, another one said sometimes, and the last one said occasionally.

### Item 26. Teachers' Training on Material Design and Development

Teachers' answers to this question indicate that their own choices as far as materials presented to their students are concerned are made on the basis of their own principles as they have said that they have received no training on how to design teaching materials. Teachers said they have not studied how to develop and design materials during their academic career as students and they have received no training during their career as teachers. Teachers rely on their personal efforts to design or choose materials to share with their students.

### Item 27. Teachers' Selection Criteria and Principles of RM Books. Teachers are asked to mention at least three criteria or principles that they use to choose their research methodology textbooks to assign students chapter (s) to read or to prepare their lessons. Teachers agree that the content that the textbooks they choose meet the objectives and goals they set. In addition, they should be cognitively speaking not challenging to their students. One teacher said that it is also important that the book includes a variety of instructional materials and activities and it should stimulate learners' engagement and active learning. Teachers also agree that the language and style of the book should be simple and clear to be especially understood by students.

### Part 5: Evaluation and Assessment

### Items 28 & 29. Frequency of teachers' feedback and answering questions

Table 19

*Frequency of Teachers' Feedback on Students' Assignments*

| Option | Always | Often | Sometimes | Rarely | Never |
|--------|--------|-------|-----------|--------|-------|
| N | 2 | | 1 | | |
| % | 66.66% | | 33.33% | | |

**Table 20. Dealing with students' class questions**

| Option | N | % |
|--------|---|---|
| **Answer them immediately** | 3 | 100% |
| **Give chance to other students to answer them** | 1 | 33.33% |
| **Leave them to the end of the session.** | 1 | 33.33% |
| **Consider them as homework to be discussed in the next session.** | 1 | 33.33% |
| **Do not answer them.** | | |

The amount of time of teachers' feedback on their students' works indicates how teachers value the importance of assuring students' learning. In addition, teachers' feedback indicates how interactive teachers are with their students. Two teachers said that they always give their students feedback and one teacher that he does this sometimes this means that there is some kind of teacher-student interaction. Teachers are also aware of the importance of answering students' question either immediately or considering other ways like giving chance to other student' to answer them, leaving them to the end of the session or even assigning them as a homework. This does also implicitly encourage interaction with and among students.

### *Item 30. Mode of Evaluation*

Table 21

*Mode of Evaluation*

| Option | N | % |
|--------|---|---|
| Continuous evaluation | 1 | 33.33% |

| | | |
|---|---|---|
| Term exams | 0 | 0% |
| Research projects | 1 | 33.33% |
| All of them | 2 | 66.66% |
| None of them (if you tick this, please mention your own way)………………… | 0 | 0% |

As it is indicated by the above table, teachers vary their ways of evaluation in the RM course. Two teachers said that they use continuous evaluation, term exams, and research projects as ways to assess their students' learning. One teacher excludes term exams from her assessment schedule a action that can be justified by an administrative argument that RT is base mainly on Continuous evaluation and students are not required to for any exam.

*Item 31: Teachers' Strategies in Directing Students' Research Projects*

Table 22

*Teachers' Strategies in Directing Students' Research Projects*

| Option | N | % |
|---|---|---|
| You make students practice well the steps of the research process | 2 | 66.66% |
| You follow continuous evaluation of the steps of the research project. | 1 | 33.33% |
| You do first draft reading of students' projects and give feedback. | 1 | 33.33% |
| You ask students to present their projects. | 2 | 66.66% |
| You give detailed reading reports to students | 1 | 33.33% |

Asking students to conduct a small project is an activity that all the three teacher use to evaluate their students' KRM and RS. Conducting a research project on their own without teachers help seems quite difficult for most students. The above suggested research related activities are thought to help students in producing high average projects. One teacher seems to do all of them while the other two teachers focused on just one activity. For example one teacher makes her students practice well the steps of the research process but she neglects to follow the

development of their projects through continuous evaluation; she does not read their first drafts; she does not ask them to present; and she does not give students reading reports. The other teacher assigns his students projects and does not guide them during the steps of their research process but asks them to present their projects, and this means that at least some kind of feedback is going to be shared with their students.

*Items 32 & 33. The importance of research projects in developing students' KRM, RS and Students' level of Achievement*

Table 23

Students' Level of Achievement in RMC

| Option | Excellent | Very good | Good | Average | Below average | Poor |
|--------|-----------|-----------|------|---------|---------------|------|
| **N** | | | 1 | 2 | | |
| **%** | | | 33.33% | 66.66% | | |

Teachers strongly agree on the importance of assigning students research projects for many reasons. First, they provide students with the opportunity to practice and apply what they have acquired as knowledge of research methods. Second, they prepare students' for their MA dissertation. Finally, they help teachers evaluate their student progress as far as their KRM and RS are concerned.

Most teachers rated their students' achievement in the RMC as average. That is, students' achievements in this course are acceptable but they are not good enough to reflect both teachers' and students' efforts (continuous evaluation and research projects, workshops, tutorials, etc). One teacher rated her students' achievements as good. But this teacher has just taught for one year and she may come across self-motivated and autonomous learners who made personal efforts to

achieve high grades. It is still relative what teachers have said about their students' scores as they did not provide any statistics about those scores.

*Item 34.Teachers' Rating of Their Satisfaction about Their Teaching Efforts*

Table 24

*Teachers' Rating of Their Satisfaction about Their Teaching Efforts*

| Option | Very satisfied | Satisfied | Neither | Dissatisfied | Very Dissatisfied |
|---|---|---|---|---|---|
| N &% | | 3 (100%) | | | |

It is observed from the above table that all teachers are satisfied with RM teaching efforts. They are not very satisfied, that is there is still room for development and this is indicted in the next item which asks about their suggestion to develop the teaching and learning of the RM in this department.

*Item 35. Suggestions for Ameliorating the State of RM teaching and assessment*

Teachers provided significant suggestions to promote the teaching of the research methodology. Teachers believe that it would be a good practice to have a small number of students in each class because big class size does not allow teachers to do different teaching activities and forces them to adopt just lecturing in their teaching. They also agree on the fact the time of this course should be increased at least to two hours. This would enable them to vary and add different types of tasks. Teachers also insisted on doing a lot of workshops and tutoring sessions to assure students' learning. Raising the course coefficient is also suggested by one teacher because he believes that students focus only on courses of high coefficient.

**6.1.2 Analysis of the Coordination Meeting**

Teachers' answers to the questionnaires yielded very important results about the practice of RMT, but there are some grey areas that required more clarification. We think that holding a discussion with a group of teachers would help generate more information especially that the purpose is unifying the course syllabus. Two teachers of RM and the researcher participated in this meeting.

After few minutes of informal discussion we have started the meeting by greeting the teachers and presented the schedule of the meeting. Then, we discussed a couple of questions concerning the content of the course. The female teacher and the researcher brought tentative course syllabi but the male teacher did not. It seems that both teachers (the female and the male) focus so much on presenting a long theoretical content on RM, especially for the first semester, while the researcher believes that students' should be presented with just basic knowledge of RM and the focus should be shifted to practice to help decrease the difficulty of this new course. However, teachers could reach consensus about the major content areas to be covered by the course considering both theoretical and practical dimensions.

When asked about their teaching methods and strategies, teachers mentioned that they rely mainly on lecturing and discussing students' questions in class. No practical activities are mentioned by both teachers to take place in their classes. Because of the big number of students and course timing, 90 minutes, teachers justified that it is impossible to have in-class activities but they accept the idea to assign students homework activities. The idea of tutoring is considered quite impossible.

Though the course of research techniques is based on continuous evaluation rather than summative exam, the two teachers prefer to make their students sit for a quiz for the first semester and do a research proposal for the second semester. Teachers explained that in the first semester they test students' knowledge of RM and in the second semester they test students' skills by applying this knowledge in a real proposal.

As far as supportive materials are concerned, the teachers and the researcher used to give handouts to their students and decided to continue this practice because they believe that students at this level (beginner) need to build their KRM and note taking (which is, most of the time, not done properly) does not guarantee wide content coverage. We proposed a syllabus of RMC and it is attached to this thesis in **appendix (O).**

*6.1.2.1 Important Note about Teachers' Teaching Materials.* In addition to what teachers clarified in the meeting about their teaching practices in RMC, we have descriptively analysed the teaching materials teachers use to facilitate students learning of this course. Since there is no coursebook to be commonly used by teachers, each one of them designed his/her handouts in his/ her own way. Teachers used to provide students by hardcopy handouts but after the outbreak of the COVID-19 pandemic (second semester of the academic year 2019-2020 and both semesters of the academic year 2020-2021) all handouts are provided electronically. The materials we analyzed are taken from the official websites of three teachers (one male (A) and two females (B & C). Our analysis is based on both the content presented and the layouts of the handouts. Our ultimate aim from the analysis of teachers' teaching materials (handouts) is first of all to know the amount of content of research knowledge undergraduate students are exposed to and how it is presented to them. This knowledge will help the researcher rethink her teaching materials especially that in the experiment limited time is devoted to lecturing. It is by all means

we are not evaluating the effectiveness of the teaching materials (it can be a research topic for a future research project).

*Teacher A's Materials.* All the handouts uploaded to his website (11 documents) are chapters from research methodology books (not textbooks), and Microsoft word documents written by researchers. The documents covered the following topics: sources of knowledge, research approaches, research problem, literature review, research ethics, variables and hypotheses, sampling, research tools, and research proposal. The length of these documents ranges between 15 and 28 pages (approximately 200 pages in total). The chapters are taken from two different books as they are without any modifications. The chapters are too long and they contain many details. There is no trace of personal design of any material.

*Teacher B's Materials.* Teacher B is a female teacher and she has the longest teaching experience among all teachers of research methodology at third year undergraduate level (7 years). In her website there are two documents and they are designed by her. The first document is composed of 20 pages and it includes five lectures (intended for the first semester) on the following topics: research methodology, types of research, method, classification of methods, approaches of research. The second document is written in 8 pages and it explains the concepts of data collection, research instruments, population /sample/ sampling techniques, abstract, and styles of writing (MLA & APA). Document 1 is theoretical and no examples were provided. It is divided into 5 sections making 5 lectures. Document 2 is full of examples and it is also divided into 5 sections but there is no indication on how they are divided in class lectures.

*Teacher C's Materials.* This is a female teacher and she is novice in teaching research methodology to undergraduate students, this is her first year of teaching research methodology.

Throughout the year and in different occasions we discussed issues related to the How and the What of teaching research methodology to third year students. She seems against lecturing especially that in this academic year each group of students, as divided by the administration, is sub-divided in three small groups containing only 15 students or less. At the last meeting she said that students are used to the method of lecturing and they are dependent on teachers to explain to them the content of the lectures, so there is no time to practice. Of course, we did not agree with her and this will be justified by the experiment we did with our students. She uploaded to her website two documents: one is about course content and the other one is a 23 pages chapter of a research methodology book (Research methodology: Methods and techniques, Kothari, C.R., 2004). The first document is designed by this teacher and specifies the topics that would be covered during both semesters and it recommends some books of RM to be read by students. The second document covered most of content intended in the course outline (document 1). This document included brief explanation of the steps of the research process.

From our analysis of the teachers' handouts, it appears that all of them covered considerable basic RM content knowledge. However, there are some topics that are covered by a teacher and not another one. For example, teacher **A**'s documents do not include any topics of how the data should be analyzed and how the research should be reported. Teacher **B**, for instance, has chosen to explain only the abstract part of a research report and not the other sections and she also did not explain how data should be analyzed and ethical issues of research are not tackled. Teacher **C** also did not cover the last steps of the research process that are data analysis and writing up the research report.  Teachers A and C documents are not self-designed and this means that little can be said about the quality of what is presented to students at this level, but we can say that the documents are voluminous. Teacher **B** has summarized important

content but we believe that this content is not well presented to the students as the handouts are condensed by information that are not well organized especially for the sections of method, classification of methods, approaches of research. Indeed, there should be a study evaluating teachers materials' at the higher education level especially those designed for English Language and literature major.

### 6.1.3 Analysis of Students' Questionnaires

*Personal Information*

Table 25

*Students' Personal Information*

| Gender | Female | | Male | |
|---|---|---|---|---|
| N | 49 | | 09 | |
| % | 84.48% | | 15.51% | |
| Age | Under 20 | 20-25 | 25-30 | More than 30 |
| N | 2 | 53 | 2 (26 & 28) | 1 (45) |
| % | 3.44% | 91. 37% | 3.44% | 1.72% |
| Total | 58 (100%) | | | |

The above table presents some basic information on the students who have participated in this study. The majority of students are females (84.48%). Though students' age ranges from under 20 to above 30, the age of the majority of students is between 20 and 25 years old. It is worth mentioning that both age and gender do not influence the study results in a way or another but it is good for the teacher who is also the researcher to know her students for better group distribution.

*Section One: Students' Knowledge of and Attitudes toward Research and their Expectations from a Research Techniques Course*

*Item 1.  Rating Students' Attitudes toward Research*

Table 26

*Rating Students' Attitudes toward Research*

| Statement | Strongly Disagree SDA | Disagree DA | Undecided UD | Agree A | Strongly Agree SA |
|---|---|---|---|---|---|
| 1. I enjoy research. | 1 | 6 | 12 | 31 | 8 |
| | 1.72% | 10.34% | 20.68% | 53.44% | 13.79% |
| 2. I can view myself as a researcher. | 6 | 14 | 21 | 7 | 10 |
| | 10.34% | 24.13% | 36.20% | 12.06% | 17.24% |
| 3. Research is very valuable. | 0 | 1 | 11 | 31 | 15 |
| | 0% | 1.72% | 18.96% | 53.44% | 25.86% |
| 4. Research can be a motivating factor to my university experience. | 0 | 3 | 5 | 30 | 20 |
| | 0% | 5.17% | 8.62% | 51.72% | 34.48% |
| 5. Research is supportive to my learning. | 0 | 0 | 7 | 29 | 22 |
| | 0% | 0% | 12.06% | 50% | 37.93% |
| 6. The most effective teaching is when the teachers give us research tasks | 1 | 8 | 12 | 23 | 14 |
| | 1.72% | 13.79% | 20.68% | 39.65% | 24.13% |
| 7. Research makes me anxious | 4 | 21 | 18 | 10 | 5 |
| | 6.89% | 36.20% | 31.03% | 17.24% | 8.62% |
| 8. I find it difficult to understand the concepts of research | 1 | 17 | 12 | 18 | 10 |
| | 1.72% | 29.31% | 20.68% | 31.03% | 17.24% |
| 9 Research is complicated subject | 0 | 15 | 14 | 22 | 7 |
| | 0% | 25.86% | 24.13% | 37.93% | 12.06% |
| 10. Research methodology course does not apply to my personal life | 6 | 23 | 14 | 13 | 2 |
| | 10.34% | 39.65% | 24.13% | 22.41% | 3.44% |

In table 26, ten statements reflecting attitudes toward the activity of research were presented to students and they were asked to rate them according to a five-point scale ranging from strongly disagree to strongly agree. From statement 1 to statement 5 positive attitudes are reflected. We can observe that the majority of students believe that research is an enjoyable

activity (A+ SA (53.44%+13.79%) = 67.23%); research is very valuable (79.3%); it is a motivating factor to study at the university (86.2%); and it supports students' learning (87.93%). However, students are not sure whether they can be researchers in the future and this is indicated by the big number of students who chose undecided (36.20%) and a considerable number chose DA or SDA (34. 47%). Statement six aims at finding about the research-learning nexus; that is, how much students learn through doing research. Students agree on the fact that teaching-based research is an effective strategy to develop students' learning (63.78%).

Statements 7, 8, 9, and 10 change the nature of attitudes. They indicate negative attitudes toward research. Most of the students disagree on the fact that research makes them anxious (SDA+DA (6.89% + 36.20%) = 43.09%). But, the majority (48.27%) agrees on the difficulty of understanding research-related concepts (that is the methodology of research). In addition, a big number of students view research as a complicated subject (49.99%). In spite of the fact that students see research as difficult and complicated subject, they disagree on the fact that a RMC is not important for their personal life (49.99%).

If we analyze the number of students who are hesitant to chose to agree or disagree (undecided) in all the ten statements, we can see that this number is considerable (20%- 36.20%) in all statements except in statements 3, 4, and 5 in which students confirmed the positive role of research in their learning process. Hesitation can be explained by either student's laziness to seriously think of attitudes they have, or they have not been through the experience of research during their two years experience at the university. This will be more justified through the analysis of the other items of this questionnaire.

### Item 2. Students' Knowledge of Their Teachers' Research Interests

Table 27

*Students' Knowledge of Their Teachers' Research Interests*

| Option | Yes | No |
|--------|-----|-----|
| N | 0 | 58 |
| % | 0% | 100% |

All students have no idea on the research interests of their teachers. This indicates the lack of the culture of sharing research ideas with students. Teachers seem to teach just certain content and do not aim beyond this. Though students, as it will be examined in the focus group discussion, have been taught about research, none of them was able to mention just the field of research of their teachers. We believe that sharing research experiences with our students can both psychologically and academically enlighten them about research as a significant activity in their university education.

### Items 3 & 4. Teachers' Publications and Investigated Topics at the DELL

Since students could not figure out their teachers' research interests, it is quite obvious that they would not be able to name any journal. One, students mentioned that "teachers have never talked about their research projects in front of their students. We do not know if they publish". As a source of research projects, students have no idea of what research journals are. From students' answers to the fourth item, it seems that students are a "Tabula rasa" as far the department teachers' research projects are concerned.

### Item 5. Students' Attendance of a Viva Voce in EFL Studies

Table 28

*Students' Attendance of a Viva Voce in EFL Studies*

| Option | Yes | No |
|---|---|---|
| N | 05 (1-3 times) | 53 |
| % | 8.62% | 91.37% |

The big number of students who have never attended a viva voce (91.37%) indicates that they have not experienced real achievements of research and they have missed a complete picture of research dissemination phase. In addition, students missed ideas for future research which are offered in thesis defense sessions. The atmosphere of academic discussion is also missed by our students especially during the COVID-19 pandemic as defense sessions are done either online without sharing with a wide audience, or they are done at the presence of the candidate and the board of examiners without being open to the general public.

***Item 6. Students' Frequency to go to the Department Library and Their Amount of library Search.***

Table 29

*Students' Frequency to Go to the Department Library and Doing Library Search*

| Option | Yes | No |
|---|---|---|
| N | 12 (but for revision not for library search) | 46 |
| % | 20.68% | 79.31% |

Again students are away from another source of knowledge that is the library. The majority of students (79.31%) never go to the library and those who said that they sometimes visit the department library; they did just go to the reading room to revise their lectures. This indicates that students have no idea on library search or finding sources in the library.

***Items 7 & 8 Students' Experience with Research and Teachers' Help***

Table 30

*Students' Experience with Research*

| Option | Yes | No |
|--------|-----|-----|
| N | 33 | 25 |
| % | 56.89% | 43.10% |

Table 31

*Teacher' Help with Students' Research*

| Option | Yes | No |
|--------|-----|-----|
| N | 23 | 35 |
| % | 39.65 | 60.34 |

Table 32

*Means Teachers Use to Help Students with Their Research Projects*

| Option | N | % |
|--------|-----|-----|
| Classroom workshop | 11 | 47.82% |
| Email | 12 | 52.17% |
| Informal meetings | 0 | 0% |
| None of this and suggestion | 0 | 0% |
| Total | 23 | 100% |

Tables (30, 31, and 32) of the items 7 and 8 of the questionnaire which are related to students' experience with research and the role the teacher in helping them with their projects revealed significant results. More than half the questioned population said that they have done research (56.89%). But, less than a half the population (39.65%) answered that teachers help them with their projects; that is, most students relied on themselves in doing their projects. The 23 students who said that teachers aided them with their projects mentioned two ways through

which they received teachers' help: classroom workshop (47.82%) and Email (52.17%). No office meetings with students, for example, are scheduled to support students in realizing their research projects.

### Item 9. The Difficulty Research and Students' Reasons

Table 33

*Difficulty of the Task of Research*

| Option | Yes | No |
|--------|-----|-----|
| N | 27 | 6 |
| % | 81. 81% | 18.18% |
| Total | 33(100%) | |

The majority of the 33 students who said that they have conducted research in item 7 agreed on the difficulty of the task of research. Students believe that the major reason for the difficulty of conducting research is the lack of classroom practice. According to them teachers constructed them in the previous two years on some basics of research, but they have not tried to do research with the teacher in the classroom. Students are left to their capacity to try and fail. In addition, the research process seems tiring for many students and choosing the research project adds to the difficulty of the task. Students also mentioned that finding relevant sources to their research was the hardest part.

### Item 10. Students' Description of Their Experience in Doing a Research Project

Many students preferred to leave this questioned unanswered, but the ones who answered this question said that they enjoyed the journey of research in spite of its difficulty. Students have also mentioned that working in pairs made research less stressing and exhausting. Other students mentioned that they struggled with choosing a research topic because their teachers did

not help them through the task. All in all, from the descriptions of the students to their research projects, it seems that no one has found the task easy, and all of them explicitly or implicitly points to the fact that doing research at this level requires classroom practice, teachers help, and group work.

### Items 11, 12 & 13. Students' Previous Information about the RMC

Table 34

*Students' Previous Information about the RMC*

| Option | Yes | No |
|---|---|---|
| N | 20 | 38 |
| % | 34.48% | 65.51% |

Table 35

*Students' Amount of Knowledge on RMC*

| Option | N | % |
|---|---|---|
| Not really much | 31 | 53. 44% |
| I have some idea | 23 | 39.65% |
| I have a clear idea about the course but my knowledge is theoretical | 4 | 6.89% |
| I can explain and practice the content of the course | 0 | 0% |

It is observed from tables 34 and 35 that a big number of students has no idea about the course of research methodology that they will study in their third year. The 34.48% of the students who have some previous information about the course mentioned that they got the information from their friends who have studied this course; they were informed by their TTU teachers of the first and second year; or they did some online research on the course. Students then classified their knowledge of the subject shallow (not really much (53. 44%)), or they have

just theoretical ideas about research methodology (39.65%+6.89%). No student said that their knowledge of research methodology is sufficient to enable them to be confident enough to explain and practice research methodology. This contradicts the answer of the students who have said that they conducted research projects, but at the same time confirms the difficulty of the task of research and students' research projects may not really methodologically speaking good.

### *Items 14 & 15. Students' Expectations from a RMC and Skills to Be Developed*

When asked about their expectations from the RMC, all students demonstrated awareness of their needs as far as this course is concerned. Some students said that they expect from the course to overcome their fears about conducting research, while others gave detailed expectations such as: learning about finding sources, designing tools to gather information, acquire more knowledge about and skills of research, choosing interesting topics, etc. Other students mentioned that they expect the course to prepare them for their master degree dissertation.

The major skills students expected the course to develop are research skills, writing skills, reading skills, and team related skills. Questioning was repeated a lot among students' answers; they mentioned that though they know that the first step of research is finding a question, in practice they do not know how to choose their own questions. Searching for relevant information from theory was also highly highlighted by students, especially online search. Reading research papers was the third skill that is stressed by students; how to read from literature related to the research problem is a skill that will save much time in the process of research. The next skill that is mentioned by students is writing research project; they said that they want to learn how to put a research study in an academic piece of writing. Though not mentioned a lot, some students see

that developing team work skills are very important for the success of their projects. Collaboration and interaction with other students is a skill that will assure completion of the work in effective way. Other skills that are also mentioned are: problem-solving, critical thinking, time management, and organization skills. It seems that students are fully aware of the skills that the RMC is supposed to develop.

*Item 16. Students' Choices of the Teaching Mode of RMC*

Table 36

*Students' Choices of the Teaching Mode of RMC*

| Option | N | % |
|---|---|---|
| Lecturing | 18 | 31.03% |
| Group discussion | 32 | 55.17% |
| Individual presentation | 13 | 22.41% |
| Workshops | 13 | 22.41% |
| Assignments | 17 | 29.31% |

Observation of the above table reveals that the majority of students prefer group discussions as the best mode of teaching RMC (55.17%). And they also prefer, to a certain degree, lecturing and assignments (31.03% & 29.31%). But both individual presentations and workshops are not that much preferred. However most of the students who have chosen group discussion they chose workshops and not lecturing. Another important observation is that almost all students who selected lecturing they also selected assignments or individual presentation. The logic of the options offered to students is to present teacher-centered (lecturing), learner-centered (individual presentations & assignments), or both ways of teaching (group discussion &

workshops). As a result, students prefer methods in which both the teacher and the student engage in the teaching -learning process.

*Item 17. Students' Reasons to View RMC as Fundamental or Optional at Third Year Level*

All students, without a single exception, agreed on the fundamental importance of the RMC to undergraduate students. Students provided different reasons justifying their choice. The strongest reason is that knowing about research methodology helps students in their studies and later in the workplace. They hold to the idea that research methodology knowledge would facilitate their research for other subjects of the curriculum, and it would help develop themselves in their academic career. Another reason that is frequent in the students' answerers is that developing skills and knowledge of research methodology at this level prepare them for their master degree studies and particularly for their master 2 dissertation. All in all, students highly value the RMC which we think would help them cooperate with the teacher for better learning.

*Section Two: Interactive Teaching Methods*

*Items 18 & 19.   Students' Experience with and Preferences of Pair and Group Learning*

Table 37

*Students' Experience with Pair and Group Learning*

| Option | Yes | No |
|--------|-----|-----|
| N | 55 | 3 |
| % | 94.82% | 5.17 |

Table 38

*Students' Preferences of Pair and Group Learning*

| Option | Yes | No |
|---|---|---|
| N | 53 | 5 |
| % | 91.37% | 8.62% |

From the tables 37 and 38, it is clear that the majority of the students experienced group and pair learning (94.82%) and they liked this learning mode (91.37). Very few students said that they did not like the experience of group and pair learning. Praising group work justified students' answer of the mode of teaching in item 16 which is group discussion.

**Item 20. Students' Wiliness to Repeat the Experience of Learning in Groups and in Pairs**

Table 39

*Students' Wiliness to Repeat the Experience of Learning in Groups and in Pairs*

| Option | Yes | No |
|---|---|---|
| N | 53 | 5 |
| % | 91.37% | 8.62% |

Students' preference of learning in groups and in pairs is strong enough to be repeated for the RMC. The smallest number of the students who did not want to repeat this experience justified their answer by saying that they are introverts or they think that group discussions are just a waste of time and they are not useful. However the majority of students hold positive attitudes toward learning in groups. Thus, applying tutorials through small groups would be easier as students are ready to cooperate with the teacher in this regard.

**Item 21. The Role of the Teacher in Group Teaching.** All students who have answered this question (52) agreed that teacher's role in group and pair type of instruction is mainly guiding students through their tasks. Teachers are seen as guides who show the way to students and correct their mistakes. Students also believe that teachers should be good listeners and respondents to their students' needs; that is, students should not be left only to their own group discussion to build their knowledge and skills, and teachers should advise students for the right direction.

**Item 22. Students' Preferences in Terms of Class Tasks**

Table 40

*Students' Preferences in Terms of Class Tasks*

| Option | N | % |
|---|---|---|
| Before class-time | 30 | 51.72% |
| During class-time | 28 | 48.27% |

It is clear from the table that half of the investigated informants are for assigning them class tasks before the class time and half of them are for assigning them tasks during the session. So, there are students who like to prepare for the lecture and there are students who do not like class preparation. The teacher should put these preferences into account and try to satisfy both types of students.

**Item 23. Students Preferences in Terms of Teachers' Explanation of the Tasks**

Table 41

*Students Preferences in Terms of Teachers' Explanation of the Tasks*

| Option | N | % |
|---|---|---|

| Whole class | 56 | 96.55% |
| --- | --- | --- |
| Group managers | 02 | 3.44% |

Another thing that students were asked about to guarantee success of group work is whether the tasks of tutorials should be explained to all tutees or this task is assigned to each group manger. It seems from table 40 that students prefer that the teacher explains to the whole class (96.55%) and they are not autonomous enough to rely on themselves in understanding what each task asks them to do. This also can be explained by students' experience with group work teaching; teachers may not make students do the tasks from the first step of understanding the task to doing the required task.

### Item 24. Students' Preferences in Terms of the Assessment Mode

Interestingly the students who have answered this question (n=35, 60.34%) see that assessment should be both in an individual and in group modes. They have justified their answer by saying that if a course is going to be taught through group discussions, the teacher should divide the scores of each student into two equal parts: half the scores is on an individual assignments (quiz) and the other half on a group assignment. A student added that if the teacher talks about this mode of assessment at the beginning of the class, students will take group discussions more seriously. Of course, we have taken into account this suggestion in the tutoring sessions that we have prepared for the experiment.

### Item 25. Suggestions for Successful Group Teaching

Most students do not like open ended questions, but still 27 (46.55%) students have answered this question. The common theme that emerged under suggestion for successful group teaching is that the number of the group members should be small (not more than 4) and they

should choose themselves. The second major theme concerns the role of the teacher. Students suggested that the teacher should make sure that there is an exchange of ideas and students are active and interactive to achieve their objectives. They also emphasised that the teacher should participate in the group discussion both as a listener and as a speaker and observe how students participate in the discussion. We do really agree with students suggestions and they are applied during the experiment.

### 6.1.4 Analysis of FGD with Students

The researcher conducted two focus group discussions with two groups of students. With a number of 18 students, divided in 2 sub-groups, what students have learnt from the TTU class focusing on whether they have covered any content related to research methodology was discussed. Then, the focus was shifted to teaching methods and students were asked about their preferred teaching styles and they were particularly asked about their experience with tutoring and group work. The last, but not least, point discussed is the students' opinions about the possibility of applying interactive teaching tutorials for research methodology class. Results of their answers are thematically summarized as follows:

*6.1.4.1 Students' Previous Leaning Experiences about RM.* From question one to question four, the objective was to know what research knowledge and skills students have acquired prior to the course. The students agreed that in TTU, especially in their second year, they were theoretically introduced to some basic concepts of RM; and TTU is the only subject that covered them. But students emphasized that their knowledge of RM is theoretical because they had no practice on what they have studied so far. Students confirmed that the knowledge they have about RM is shallow and does not enable them to do real projects as they lack research

skills as well. However, they stressed that they are motivated to learn more about the subject and do more practice which can be terminated by a real research project.

**6.1.4.2** *Students' Opinions about Their Preferred Teaching Methods.* For the fifth, six, and seventh, the focus of the discussion was shifted to cover questions related to students opinions about their teachers' teaching methods. So, the respondents were quite sure that lecturing is the most dominant method. They said that teaching in the Department is teacher-centered and very few teachers provide them with practice especially inside the classroom. But they had no experience with tutoring during their two years at the university. Students said that they are just listening to teachers talking about theories but they need to apply what they learn through activities and tasks. Their tone is for more practice in the class time and they proposed to reduce lecturing time and assign extra reading through giving handouts.

**6.1.4.3 Students' Experience with Team Discussions.** The questions eight and nine are aimed to find about students' preference in terms of studying in groups and the extent to which team discussions truly helped upgrade their knowledge and skills. With the exception of two students, all the students hold positive attitudes toward group learning especially if it is guided by a teacher. Students believe that group discussion enriches their knowledge about the subject and make things clearer especially to those students who feel shy to ask the teacher, or to those who feel at ease with the simple style of their peers.

**6.1.4.4 Students' Expectations about Teaching RMC through Interactive Tutorials**. All respondents welcomed the idea of teaching RMC through interactive tutorials because they think that working on activities with their classmates under the supervision of their tutor would foster their learning and guarantee instant formative feedback. Students stressed the fact that discussing

answers of tutorial's activities with their classmates, in groups or whole class, would help them simplify the information and make the task of research enjoyable.

### 6.1.5 Discussion of the Results Gained before the Intervention

All the data gathered before the start of the experiment are meant to show different aspects of the context in which it took place. Questioning research methodology teachers and holding a coordination meeting with them helped identify general methodology teaching practices and figured out difficulties teachers face in teaching this course. In addition, both students' questionnaires and focus group discussion with the selected sample from third year population helped in finding about students' attitudes about, knowledge and skills of research methodology; and their analysis helped in knowing more about students' learning practices especially learning in groups and their expectations from being taught through interactive tutorials.

The above analysis of the teachers' questionnaire and the coordination meeting with the teachers yielded significant results. These two instruments helped in answering the first descriptive research question of this study that is: What experiences and attitudes research methodology teachers have in their teaching practice of this course at this department?

The five sections of the questionnaire tried to cover all aspects of the RM teaching of the three teachers at this department. The second part tried to overview teacher' teaching experience of RMC. In spite of their positive attitudes toward the subject of research methodology, teaching it to students seems to a certain extent difficult. Students are seen as slightly or not motivated to study this subject, and their achievement is evaluated as average or below average. In addition, teachers consider the course time not enough to teach properly. This may justify teachers' focus

on lecturing and reluctance from adopting workshops and tutorials in their teaching (lack of group and peer discussions). However, one teacher still confirms that she tried her best to devote some sessions to practice and she motivated her students through making them interact with each other through group, peer, and class discussions.

In the absence of the course syllabus, teachers are left to their own knowledge and decisions to design their own syllabuses. The coordination meting helped to unify the syllabuses at this level. However, the analysis of the  teaching materials (Handouts) teachers shared with their students do not cover all the content presented in their syllabuses, and hence do not achieve all the objectives set for this course. We believe that presenting the content of the course to students as chapters from books of research methodology, as they are, does not simplify the technicality of the course and it does not help students be confident in their knowledge gain. Chapters from books can be assigned as extra materials for further reading; and in the absence of a textbook, teachers should design their own instruction materials.

Assessment of the course greatly influences students' motivation. Teachers reported that they used to assign students individual assignments, make them sit for quizzes and ask them to do research projects. However, not all teachers do this. Some of them they do not make the students sit for the quiz and some of them reported that they do not ask students to do research projects. The RMC assessment is mainly based on continuous evaluation which means that students' knowledge and skills should be constantly evaluated. We believe that, individual as well group evaluation modes should be employed to insure students' KRM and RS development.

In addition to what the teachers said about the teaching and learning of RMC, students' opinions and attitudes are extremely important for understanding how they view research in

general and research methodology in particular. Through both students' questionnaires and FGD, it was found that the participants of this study knew very little about the subject of research methodology, mainly from their TTU course, and their teachers had never talked about their research projects. The knowledge and the skills they had about research methodology viewed as shallow and not enabling to help them do any research project. In addition, students' simplified understanding of the concept of research to some online search about a certain topic was changed in the course of TTU. So, knowing the fact that research is a whole process made the students view research as a tough and difficult task. It was apparent from students' answers of the sections of their preferred teaching methods that they are so much for tutoring and group works, though as they said it is dominant method in this department. Students' praised a teaching methodology that is based on practice, group work, discussions, and close interaction with the teacher.

All in all, from both the questionnaire and the coordination meeting with research methodology teachers and both students' questionnaires and FGD, it seems evident that the RMC still causes some hardship to teachers and students are still struggling to adequately learn the content of this course. Thus, research methodology teaching at especially the undergraduate level requires action research to identify pertinent problems and to find better academic solutions. To develop students' knowledge and skills in research methodology is very important especially for their academic life and teachers should do all they can to assist them. More importantly, proposing the teaching of the RMC through ITM in a form of tutorials was expected by both teachers and students to be effective in developing students' performance in this subject.

**6.2 Analysis and Discussion of the Instruments Used for the Intervention**

**6.2.1 Analysis of the Experiment**

Analysis of the experiment entails analysis of the students' scores in the tests that are designed for the purpose of measuring the stated hypothesis. In this research study, the researcher chose to divide the experiment into two major phases for reasons mentioned in the methodology chapter. So, in the first phase, both the EG and the CG took the first pre-test and the first post-test. In the second phase, both groups took the second pre-test and a post test. Another way to measure students' performance in research methodology course, we have also used students' scores  (Both EG and CG) in writing research proposals and writing small research projects as axes to measure their progress in the first and second phases respectively.

The results of the four tests, research proposal, and research projects of the two groups (EG and CG) are later statistically compared to confirm or disconfirm the stated hypothesis. Indeed, "The data produced by experimental studies are quantitative, and as such, the researcher who actually conducts a study examines the data using statistical procedures" Lodico et al. (2006, p. 187). All in all, the purpose from doing data analysis is to summarise veraciously what is going on with the data, and significance of the data comes from the right reading of the statistics obtained.

Therefore, the scores of the students of both the EG and the CG gained from all sorts of evaluation forms, that are used in this experiment, should be statically accounted for. According to Lodico et al. (2006, p. 252), conducting experimental or quasi experimental research, a researcher should follow systematic steps in statistical analysis. They are as follows:

**Step One: Review the Null Hypothesis**: the null hypothesis states that there is no real difference or relationship between the groups or variables and that any difference found was due to chance

**Step Two: Decide on Probability Level**: the researcher usually decides to set the probability level at either .01 or .05. Most educational researchers set the probability at .05, preferring not to miss a true difference that might exist.

**Step Three: Select the Statistical Tool**: parametric (interval or ratio data) and nonparametric (nominal or ordinal)

**Step Four:** calculate the results of the statistical test and make decision about rejecting the null hypothesis

According to these steps the analysis of this study goes like this:

**Step One: Review the Null Hypothesis**

According to Lodico et al. (2006) "All statistical procedures test the null hypothesis. That is, in experimental studies, they test that there is no true difference between the sample means and that any difference that was found was due to chance and not treatment." (p. 252). Hence, it is critical to mention both the null hypothesis ($H_0$) and the alternative one tailed-hypothesis (H) of this study. So, here they are:

$H_0$= Teaching research methodology through interactive tutorials has no effect on developing students' basic research methodology knowledge, research skills, and positive attitudes toward research.

**H**=Teaching undergraduate students the research methodology course through interactive tutorials critically promotes their basic research methodology knowledge, research skills, and positive attitudes toward research.

**Step Two: Decide on Probability Level**

"In education, the generally acceptable probability level (*p* value) is less than .05, or 5 out of 100"  (Lodico, Spaulding, & Voegtle, 2006, p. 253). That is, the null hypothesis could not be rejected only if there is just 5 % or less chance that the results are due to chance and not to treatment. With reference to alpha level (α) < or =.05, a test of significance should be used to justify the conclusions summarized later. So, in order to know whether students' research knowledge and skills are significantly developed with the help of the treatment (interactive tutorials) or not, we apply a test of significance as it is recommended by Lodico et al. (2006).

**Step Three: Select the Statistical Tool**.

The statistical test that is applied for this study is the parametric Independent Samples T-Test. This latter aims at testing the difference between two mean scores and it has two types: the related (also paired sample) t-test, used when the scores come from the same group in different conditions, and the independent groups (unrelated) t-test, used when scores come from two different groups ( (Langdridge & Hagger-Johnson, 2013, p. 238). For the calculations of the t-test, we did not do this manually, but we have used SPSS version 23.

**Step Four: Calculating the results of the statistical test**

At the end of the experiment, we evaluated students (of both groups) in two pretests, writing research proposals and research project, and two post-tests (sum of 6 tests), and we

organized data in Excel file. After this, we have processed data through SPSS version 23 that we

got license of from a statistician.

**6.2.1.1 Phase One of the Experiment.** As it has been elaborated in chapter three, the

experiment was divided into two phases. In phase one, students of the EG were tested before the

intervention by means of a pre-test. They were also tested through writing research proposals

after four interactive tutorials, and their KRM and RS were finally assessed by means of a post-

test. The results of all tests are presented as follows:

**6.2.1.1.1 Results of Pre-test One.** Both experimental and control groups (n=58) sit for a

RM test, designed by the researcher, to assess both their research knowledge and skills of

research methodology. The test was taken before the intervention and the following table

summarizes the scores of the students of both the EG and the CG in the first pre-test.

Table 42

*Scores of the EG and CG in the 1ˢᵗ Pre-test*

| Experimental Group | | Control Group | |
|---|---|---|---|
| **Student** | **Score** | **Student** | **Score** |
| **Student 1** | 05.00 | **Student 1** | 03.00 |
| **Student 2** | 06.00 | **Student 2** | 06.00 |
| **Student 3** | 06.00 | **Student 3** | 04.00 |
| **Student 4** | 02.00 | **Student 4** | 05.00 |
| **Student 5** | 03.00 | **Student 5** | 07.00 |
| **Student 6** | 04.00 | **Student 6** | 03.00 |
| **Student 7** | 05.00 | **Student 7** | 05.00 |
| **Student 8** | 06.00 | **Student 8** | 02.00 |
| **Student 9** | 06.00 | **Student 9** | 06.00 |
| **Student 10** | 02.00 | **Student 10** | 05.00 |
| **Student 11** | 05.00 | **Student 11** | 02.00 |
| **Student 12** | 04.00 | **Student 12** | 03.00 |
| **Student13** | 07.00 | **Student13** | 04.00 |
| **Student 14** | 00.00 | **Student 14** | 08.00 |
| **Student 15** | 00.00 | **Student 15** | 07.00 |
| **Student 16** | 05.00 | **Student 16** | 06.00 |

| Student 17 | 05.00 | Student 17 | 04.00 |
|---|---|---|---|
| Student 18 | 02.00 | Student 18 | 05.00 |
| Student 19 | 05.00 | Student 19 | 04.00 |
| Student 20 | 05.00 | Student 20 | 04.00 |
| Student 21 | 08.00 | Student 21 | 03.00 |
| Student 22 | 06.00 | Student 22 | 05.00 |
| Student 23 | 03.00 | Student 23 | 00.00 |
| Student 24 | 04.00 | Student 24 | 00.00 |
| Student 25 | 03.00 | Student 25 | 05.00 |
| Student 26 | 05.00 | Student 26 | 04.00 |
| Student 27 | 03.00 | Student 27 | 00.00 |
| Student 28 | 00.00 | Student 28 | 04.00 |
| Student 29 | 02.00 | | |
| Student 30 | 04.00 | | |
| $\sum X_E = 121$ | | $\sum X_C = 114$ | |
| $\bar{X} = 4.03$ | | $\bar{X} = 4.07$ | |

The results of both EG and control group as displayed in table 42 show that all participants have low level in this test. A quick reading through the scores of both groups in this first pre-test, it is observed that the highest score is eight and the lowest is 0, and this means that all of the scores are under average. This indicates that students have retained almost nothing from the course of TTU in which they have been exposed to some basic methodology notions (included in this pre-test) in their second year. That is, they are low achievers as far as research methodology is concerned and their performance can be evaluated as below average. This, in turn, indicates that both the EG and CG are equal in terms of KRM and RS before the intervention. Moreover, the inference that might be drawn from this result is that the difference or similarity of the two groups at the end of the experiment will be attributed to the independent variable (using interactive tutorials).

Statistically speaking, we have used the independent-groups $t$-test to compare the means of the two groups in the first pre-test by using SPSS version 23.0. Miller et al. (2002, p.124) explained that interpretation of the results of the independent t-test (in SPSS) goes through two

stages: Stage one is about examining the homogeneity of the variance between the two groups using Levene's Test for Equality of Variances. If (Sig.) (*p*-value) is greater than 0.05, "Equal variances are assumed" (first row); but if (Sig.) is smaller than 0.05, then "Equal variances not assumed" (second row). The second stage is finding the t-value and its degree of freedom (df.) according to the selected row (first or second) and the result of "Sig. (2-tailed)" and comparing it to $\alpha$=.05.

Back to the results of comparing the scores of the EG and the CG in the first pre-test, it is read form figures 6 and 7 that the EG has (**M=4.03, SD=2.04**) and the CG has (**M=4.07, SD=2.03**). Figure N 9 demonstrates the difference between the means of the two groups in the first pre-test. The result of the Levene's Test for Equality of Variances (Sig.= .71> .05) (thus not significant), indicates that "Equal variances are assumed". So, we read from the first row: t=.71, df. =56 and Sig. (2-tailed) =.94. So .94 >.05 (see figures 10 and 11).

> It is expressed as: *t=.71,* df *=56, p=.94 ns.*

The statistical results indicate that the two groups (EG and CG) are equal in terms of their research methodology performance before the experiment. In other words, before any treatment, the participants are equal in terms of their research methodology knowledge and research skills. This, in turn, entails that any change of the performance of the participants after the treatment will indicate the extent to which the implementation of interactive tutorials in research methodology course develop/do not develop students' research methodology knowledge and research skills.
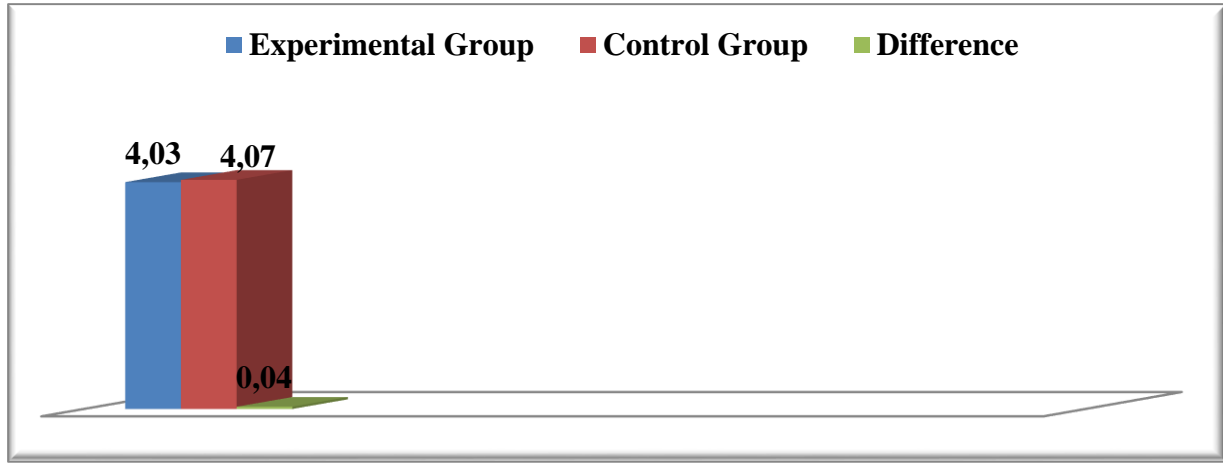
*Figure 9* Means of the EG and CG in the 1ˢᵗ Pre-test

**Group Statistics**

| group | | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| EGPre1 | EG | 30 | 4,03 | 2,042 | ,373 |
| | CG | 28 | 4,07 | 2,035 | ,385 |

*Figure 10* Group Statistics of the First Pre-test

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| EGPre1 | Equal variances assumed | ,138 | ,711 | -,071 | 56 | ,944 | -,038 | ,536 | -1,111 | 1,035 |
| | Equal variances not assumed | | | -,071 | 55,751 | ,944 | -,038 | ,536 | -1,111 | 1,035 |

*Figure 11.* Independent Samples T- test Comparing the EG and CG in the First Pre-test

**6.2.1.1.2 Results of the EG and CG in Writing a Research Proposal.** As part of continuous evaluation of the two groups of the experiment (EG and CG), we have asked students to write research proposals. Students in the EG group work in groups of three students to write their proposals while students in the CG had to do this individually. It is important to mention that EG students have partially done their proposals during the interactive tutorials as each tutorial was aimed to develop their KRM and RS in one step of research. However, the CG

students were taught through didactic lecturing type of teaching and students have practiced nothing of what they have been taught. Nonetheless, CG students were also guided on how to write a research proposal. So, both groups were supposed to write a research proposal in which they are required to choose a topic (T.), write a statement of problem (S.P.), write a research question, (R.Q) write a hypothesis (H.), and write an essay of five paragraphs summarizing the LR (of five related references about their topic). The scores of the two groups in writing the research proposal are displayed in tables 43 and 44 and figure 12.

Table 43

*Scores of the EG in Writing a Research Proposal*[3]

| Group | Student | T. | S.P. | R.Q. | R.O. | H. | L.R. | Score |
|---|---|---|---|---|---|---|---|---|
| 1 | Student 1<br>Student 2<br>Student 3 | 3 | 03 | 03 | 02 | 02 | 03 | 16 |
| 2 | Student 4<br>Student 5<br>Student 6 | 02.50 | 04.00 | 1.50 | 02.00 | 01.50 | 03.50 | 15 |
| 3 | Student 7<br>Student 8<br>Student 9 | 03.00 | 03.50 | 03.00 | 01.50 | 02.50 | 02.50 | 16 |
| 4 | Student 10<br>Student 11<br>Student 12 | 02.50 | 02.00 | 02.50 | 02.50 | 01.50 | 02.00 | 13 |
| 5 | Student13<br>Student 14<br>Student 15 | 01.50 | 01.50 | 02.50 | 02.50 | 01.50 | 02.50 | 12 |
| 6 | Student 16<br>Student 17<br>Student 18 | 02.00 | 02.50 | 01.50 | 02.00 | 02.00 | 03.00 | 13 |
| 7 | Student 19<br>Student 20<br>Student 21 | 01.50 | 00.50 | 01.50 | 02.50 | 01.50 | 00.5 | 08 |

---

[3] T= topic, S.P. = statement of the problem , R.Q. = research question , R.O. = research objectives , H. = hypothesis, L.R. = literature review

| 8 | Student 22 | 03.00 | 02.50 | 02.00 | 02.50 | 02.50 | 01.50 | 14 |
| | Student 23 | | | | | | | |
| | Student 24 | | | | | | | |
| 9 | Student 25 | 01.50 | 01.50 | 02.00 | 01.50 | 01.50 | 02.00 | 10 |
| | Student 26 | | | | | | | |
| | Student 27 | | | | | | | |
| 10 | Student 28 | 01.50 | 01.50 | 01.00 | 02.00 | 01.50 | 01.50 | 09 |
| | Student 29 | | | | | | | |
| | Student 30 | | | | | | | |
| | | 22.00 | 22.50 | 20.50 | 21.00 | 18.00 | 22.00 | $\sum X_E$=126 |
| | | $\bar{X}$=2.2 | $\bar{X}$=2.25 | $\bar{X}$= 2.05 | $\bar{X}$=2.1 | $\bar{X}$=1.8 | $\bar{X}$= 2.2 | $\bar{X}$=12.6 |

Table 44

*Scores of the CG in Writing a Research Proposal*

| Student | T. | S.P. | R.Q. | R.O. | H. | L.R. | Score |
|---|---|---|---|---|---|---|---|
| Student 1 | 02.00 | 02.50 | 02.00 | 02.50 | 02.00 | 03.00 | 13.00 |
| Student 2 | 03.00 | 02.00 | 02.50 | 02.00 | 02.50 | 02.00 | 14.00 |
| Student 3 | 01.00 | 00.50 | 02.00 | 01.50 | 01.50 | 01.50 | 08.00 |
| Student 4 | 01.00 | 00.00 | 01.00 | 02.00 | 01.00 | 03.00 | 08.00 |
| Student 5 | 02.00 | 03.00 | 02.00 | 02.50 | 02.50 | 04.00 | 16.00 |
| Student 6 | 02.00 | 01.00 | 01.50 | 01.00 | 02.00 | 01.50 | 09.00 |
| Student 7 | 01.50 | 02.00 | 02.00 | 01.50 | 02.00 | 04.00 | 13.00 |
| Student 8 | 01.00 | 00.50 | 01.00 | 00.50 | 00.50 | 00.50 | 04.00 |
| Student 9 | 00.50 | 00.00 | 01.00 | 00.50 | 01.00 | 01.00 | 04.00 |
| Student 10 | 02.50 | 02.00 | 02.00 | 01.50 | 02.00 | 03.00 | 13.00 |
| Student 11 | 01.50 | 02.00 | 01.50 | 01.50 | 01.00 | 02.50 | 10.00 |
| Student 12 | 02.00 | 01.50 | 02.00 | 02.50 | 02.00 | 02.00 | 12.00 |
| Student13 | 00.50 | 00.00 | 01.00 | 00.50 | 00.50 | 01.50 | 04.00 |
| Student 14 | 02.50 | 03.00 | 02.50 | 02.50 | 02.00 | 03.50 | 16.00 |
| Student 15 | 02.00 | 02.50 | 02.50 | 02.00 | 02.00 | 03.00 | 14.00 |
| Student 16 | 01.50 | 01.50 | 02.00 | 02.50 | 02.00 | 02.50 | 12.00 |
| Student 17 | 02.00 | 03.00 | 01.50 | 02.00 | 01.50 | 03.00 | 13.00 |
| Student 18 | 03.00 | 02.50 | 02.00 | 02.00 | 02.00 | 03.50 | 15.00 |
| Student 19 | 01.00 | 02.00 | 01.00 | 01.50 | 01.50 | 03.00 | 10.00 |
| Student 20 | 01.50 | 01.50 | 02.00 | 01.50 | 01.50 | 02.00 | 10.00 |
| Student 21 | 02.50 | 00.50 | 02.50 | 02.00 | 02.00 | 01.50 | 11.00 |
| Student 22 | 01.00 | 00.00 | 01.00 | 02.00 | 02.00 | 00.00 | 06.00 |
| Student 23 | 00.50 | 01.00 | 01.00 | 00.50 | 02.00 | 02.00 | 07.00 |
| Student 24 | 01.50 | 00.50 | 02.00 | 01.50 | 02.00 | 02.50 | 10.00 |
| Student 25 | 02.00 | 00.00 | 01.50 | 00.50 | 00.50 | 01.50 | 06.00 |
| Student 26 | 01.00 | 00.50 | 01.00 | 01.00 | 01.50 | 02.00 | 09.00 |
| Student 27 | 00.50 | 01.00 | 00.50 | 01.00 | 01.00 | 00.00 | 04.00 |
| Student 28 | 01.00 | 00.00 | 00.00 | 01.50 | 01.00 | 01.00 | 04.00 |

| 44.00 | 37.00 | 45.50 | 44.00 | 46.00 | 61.00 | $\sum X_C = 275$ |
|-------|-------|-------|-------|-------|-------|------------------|
| $\bar{X}$=1.57 | $\bar{X}$ =1.32 | $\bar{X}$ =1.62 | $\bar{X}$=1.57 | $\bar{X}$=1.64 | $\bar{X}$==2.17 | $\bar{X}$=09.82 |
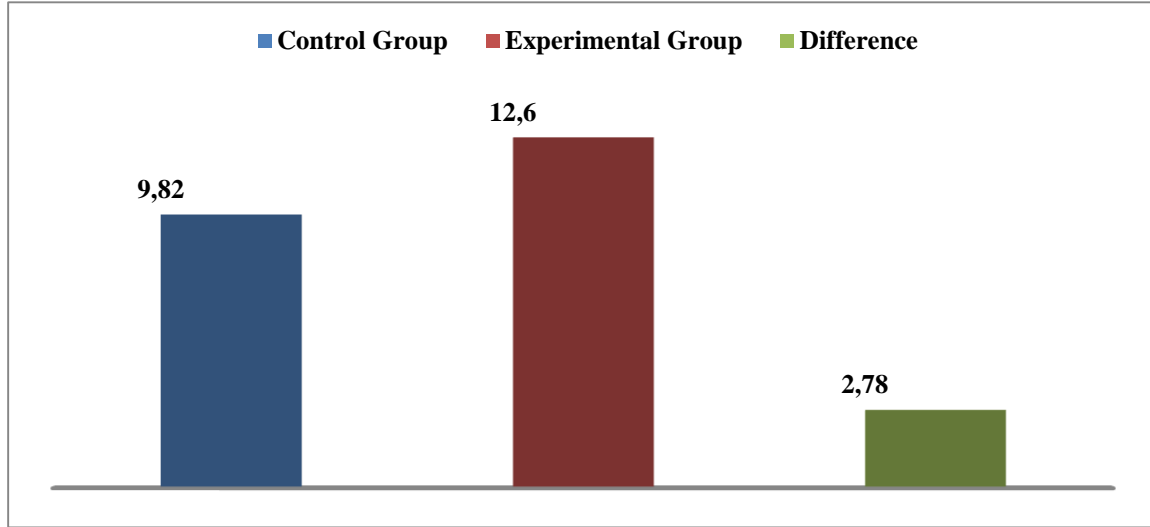


*Figure 12* The Difference between the Means of EG and CG in Writing Research Proposal

To compare the means of the scores of the two groups in writing the research proposal, they should be exposed to the test of significance (in this case the independent sample t-test) to find whether the two groups have performed differently or not as far writing research proposals is concerned. Using the SPSS software revealed the following results: the EG has (**M= 12.6, SD= 2.73**) and the CG has (**M= 9.82, SD=3.86**) (see figure 12).

As it is mentioned before, using the *t*-test to compare the means of two groups gives more powerful interpretations of the differences/ or similarities than simply comparing the means. Comparing EG and CG scores in writing research proposal using the t-test, we come up with the following results which are summarized in figures 13 and 14.  In figure 14, Sig. =.05 and it is equal to α=.05 so we also read from the first line because Levene's test for equality of variance determines for this value that "Equal valiances assumed". So, **t=3.17**, **df=56**, **Sig. (2-tailed) or p-**

**value=.002** . We find that 0.02 is smaller than α=.05. Hence, the difference between means is significant at α=.05.

> It is expressed as: *t=3.17, df =56, p=.002 ns.*

We can conclude that the difference between the EG and CG in writing research proposals is statistically significant. After four sessions of using interactive tutorials with the experimental group, the positive effects of the treatment are observed.

**Group Statistics**

|  | group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| COMPPRO | EG | 30 | 12,60 | 2,737 | ,500 |
|  | CG | 28 | 9,82 | 3,869 | ,731 |

*Figure 13* Group Statistics of EG and CG in Writing A Research Proposal

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  | 95% Confidence Interval of the Difference | |
|  |  | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| COMPPRO | Equal variances assumed | 3,893 | ,053 | 3,175 | 56 | ,002 | 2,779 | ,875 | 1,025 | 4,532 |
|  | Equal variances not assumed |  |  | 3,138 | 48,301 | ,003 | 2,779 | ,886 | ,998 | 4,559 |

*Figure 14* Independent Samples *T*-Test Comparing the EG and CG in Writing a Research Proposal

***6.2.1.1.3 Results of Post-test One.*** At the end of the first phase of the experiment, all participants were again individually tested on their research methodology knowledge and skills. The aim of testing students at the end of this phase is to partially measure our hypothesis and find whether the intervention made any positive influence on students or not. Table 45 summarizes the scores of both the EG and the CG in the first post-test of this experiment.

Table 45

*Scores of the EG and CG in the 1ˢᵗ Post-test*

| Experimental Group | | Control Group | |
|---|---|---|---|
| **Student** | **Score** | **Student** | **Score** |
| Student 1 | 17.00 | Student 1 | 09.00 |
| Student 2 | 16.00 | Student 2 | 10.00 |
| Student 3 | 14.00 | Student 3 | 06.00 |
| Student 4 | 14.00 | Student 4 | 11.00 |
| Student 5 | 13.00 | Student 5 | 14.00 |
| Student 6 | 17.00 | Student 6 | 06.00 |
| Student 7 | 15.00 | Student 7 | 10.00 |
| Student 8 | 14.00 | Student 8 | 04.00 |
| Student 9 | 13.00 | Student 9 | 11.00 |
| Student 10 | 13.00 | Student 10 | 11.00 |
| Student 11 | 12.00 | Student 11 | 05.00 |
| Student 12 | 11.00 | Student 12 | 08.00 |
| Student13 | 14.00 | Student13 | 09.00 |
| Student 14 | 11.00 | Student 14 | 16.00 |
| Student 15 | 16.00 | Student 15 | 15.00 |
| Student 16 | 15.00 | Student 16 | 14.00 |
| Student 17 | 10.00 | Student 17 | 10.00 |
| Student 18 | 15.00 | Student 18 | 11.00 |
| Student 19 | 13.00 | Student 19 | 10.00 |
| Student 20 | 12.00 | Student 20 | 12.00 |
| Student 21 | 11.00 | Student 21 | 08.00 |
| Student 22 | 16.00 | Student 22 | 06.00 |
| Student 23 | 10.00 | Student 23 | 06.00 |
| Student 24 | 10.00 | Student 24 | 04.00 |
| Student 25 | 12.00 | Student 25 | 06.00 |
| Student 26 | 09.00 | Student 26 | 05.00 |
| Student 27 | 13.00 | Student 27 | 11.00 |
| Student 28 | 11.00 | Student 28 | 06.00 |
| Student 29 | 10.00 | | |
| Student 30 | 13.00 | | |

$\sum X_E = 390$

$\bar{X} = 13.00$

$\sum X_C = 254$

$\bar{X} = 9.07$

**Difference in the means = 3.93**
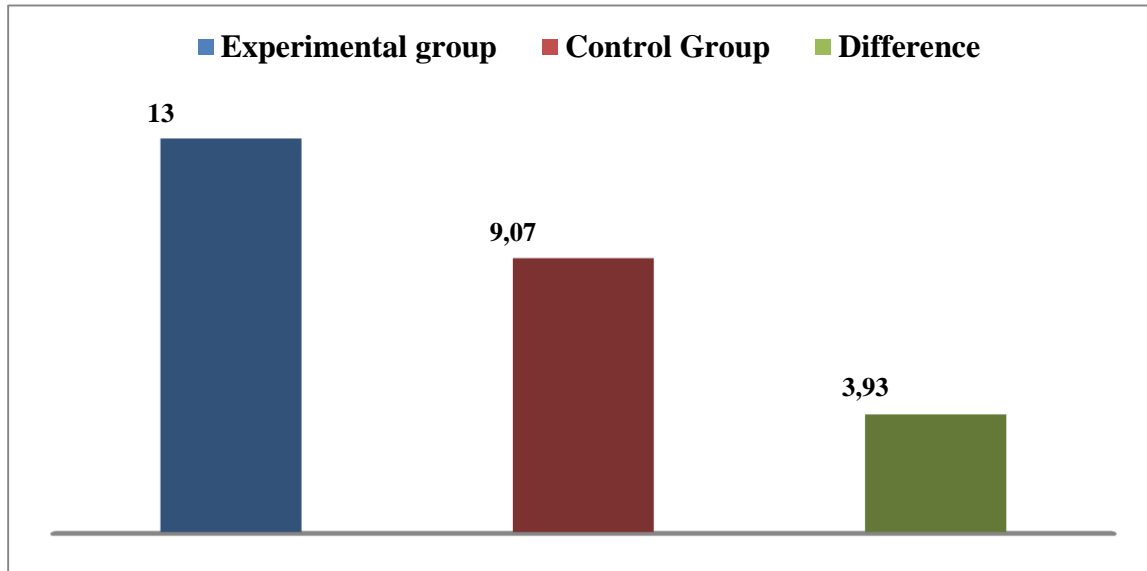
*Figure 15* The Difference between the Mean Scores of the EG and CG in the First Post-Test

The comparison between the EG and CG in the first post-test needs to be statistically analyzed for valid interpretations (again the comparison of just the mean differences can be misleading). Thus, the t-test to compare the means of the two groups in this test is also applied using SPSS 23. The results of the analysis are shown in figures 16 and 17. As it is observed, EG has (M=13 and SD=2.4) and CG has (M=9.07 and SD=3.36) (differences in means is demonstrated in figure 15). The Levene's Test for Equality of Variances set Sig. at .02; that is, it is less than $\alpha$=.05. Hence we read in the second row that t=5.19, df=46.58, and Sig. (2-tailed) or p-value= 0.00. This indicates that it is "a p that is 'off the scale', less than0.001). Hence the difference between means is significant not only at p< 0.05 but also at p < .001.  We can conclude that students in the EG outperformed students in the CG in their performance of this RM first post-test. This in turn rejects the null hypothesis and accepts the alternative one. Indeed, this first post test positively supports our hypothesis that adopting interactive tutorials in the teaching of RM to undergraduate students develops their knowledge and skills of RM at this

level. By this test, the first phase of the experiment finished and another phase started after one month from then.

**Group Statistics**

| | group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| COMPOST1 | EG | 30 | 13,00 | 2,244 | ,410 |
| | CG | 28 | 9,07 | 3,366 | ,636 |

*Figure 16* Groups Statistics of the EG and CG in the First Post-test

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| COMPOST1 | Equal variances assumed | 5,736 | ,020 | 5,263 | 56 | ,000 | 3,929 | ,746 | 2,433 | 5,424 |
| | Equal variances not assumed | | | 5,193 | 46,583 | ,000 | 3,929 | ,757 | 2,406 | 5,451 |

*Figure 17* Independent Sample T-test Comparing the Scores of the EG and CG in the First Post-test

**6.2.1.1.4 Summary of the First Phase of the Experiment.** In the first phase of the experiment the EG and the CG were tested before the intervention by a pre-test, after four interactive tutorials for the EG and four lectures for the CG by writing a research proposal, and at the end of the first phase by a post-test. Table 46 and figure 18 demonstrate that both groups were similar in terms of their achievement in the research methodology pre-test. Both groups developed research methodology knowledge and research skills in the first phase of the experiment but the EG outperformed the CG in both proposal writing and the first post test outperformed the CG. The t-tests, as they are described above, that were performed to analyse the differences between the two groups in the three tests proved theses results.

Table 46

*Means and Standard Deviations of the EG and CG in Phase 1 of the Experiment*

| Test | 1st pre-test | | Writing proposal | | 1st post-test | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD |
| EG (N=30) | 4.03 | 2.04 | 12.60 | 2.73 | 13.00 | 2.24 |
| CG (N=28) | 4.07 | 2.03 | 9.82 | 3.86 | 9.07 | 3.36 |
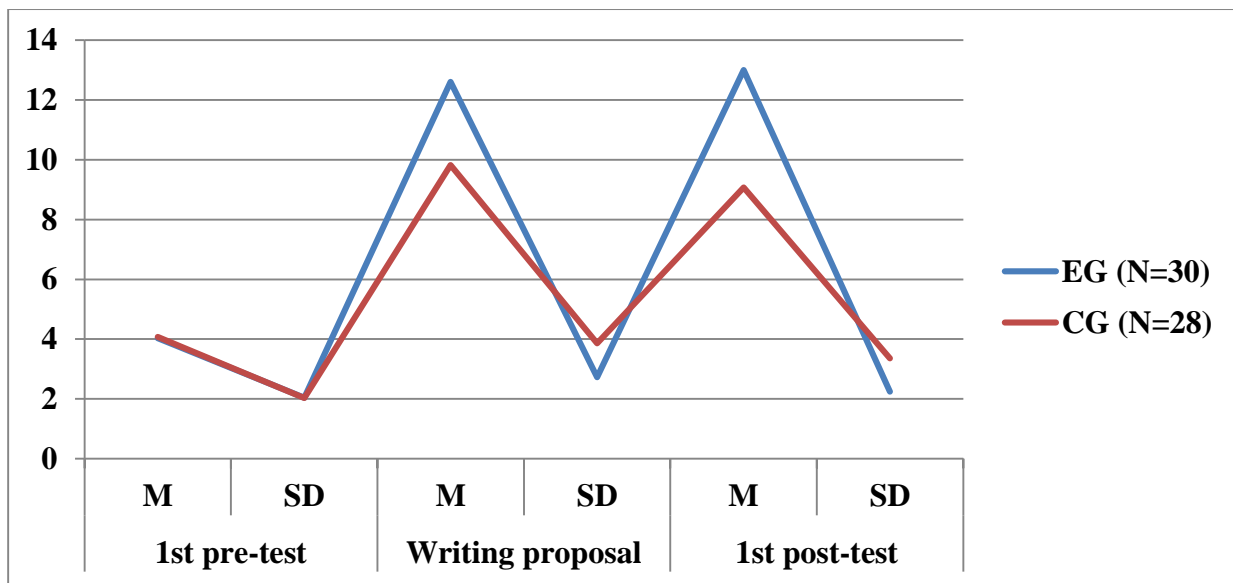


*Figure 18* Changes of Means and Standard Deviations of the EG and CG in the First Phase

**6.2.1.2 Phase Two of the Experiment.** After one month of rest, students were back to their studies and the second phase of the experiment started. Before the intervention another pre-test (on different content of the syllabus) has been administered to both groups (EG and CG). After four interactive tutorials with the EG and four lectures with the CG, participants were asked to write small research projects (EG work in groups and CG work individually). At the end of this phase, all participants individually took a post-test. Results of all tests are displayed in tables 47, 48, 49, and 50.

**6.2.1.2.1 Results of Pre-test Two**. Students sit for another pre-test which assessed their performance in research methodology. It tested students' knowledge on the areas of research design, data gathering tools, data analysis and discussion, and writing up the research report. The results of this test are presented in table 47 and figure 19.

Table 47

*Scores of Participants in the Second Pre-test*

| Experimental Group | | Control Group | |
|---|---|---|---|
| **Student** | **Score** | **Student** | **Score** |
| Student 1 | 09.00 | Student 1 | 03.00 |
| Student 2 | 05.00 | Student 2 | 06.00 |
| Student 3 | 05.00 | Student 3 | 02.00 |
| Student 4 | 05.00 | Student 4 | 02.00 |
| Student 5 | 08.00 | Student 5 | 05.00 |
| Student 6 | 05.00 | Student 6 | 02.00 |
| Student 7 | 08.00 | Student 7 | 05.00 |
| Student 8 | 08.00 | Student 8 | 03.00 |
| Student 9 | 00.00 | Student 9 | 04.00 |
| Student 10 | 02.00 | Student 10 | 00.00 |
| Student 11 | 03.00 | Student 11 | 03.00 |
| Student 12 | 00.00 | Student 12 | 07.00 |
| Student13 | 00.00 | Student13 | 05.00 |
| Student 14 | 03.00 | Student 14 | 08.00 |
| Student 15 | 04.00 | Student 15 | 07.00 |
| Student 16 | 06.00 | Student 16 | 10.00 |
| Student 17 | 04.00 | Student 17 | 06.00 |
| Student 18 | 06.00 | Student 18 | 05.00 |
| Student 19 | 05.00 | Student 19 | 06.00 |
| Student 20 | 03.00 | Student 20 | 08.00 |
| Student 21 | 03.00 | Student 21 | 04.00 |
| Student 22 | 06.00 | Student 22 | 03.00 |
| Student 23 | 04.00 | Student 23 | 00.00 |
| Student 24 | 05.00 | Student 24 | 02.00 |
| Student 25 | 00.00 | Student 25 | 05.00 |
| Student 26 | 02.00 | Student 26 | 03.00 |
| Student 27 | 03.00 | Student 27 | 04.00 |
| Student 28 | 03.00 | Student 28 | 02.00 |
| Student 29 | 05.00 | | |
| Student 30 | 07.00 | | |

$\sum X_E = 127$                                        $\sum X_C = 120$

Mean= **4.23**                                        Mean = **4.29**

**Difference in the means = 0.05**
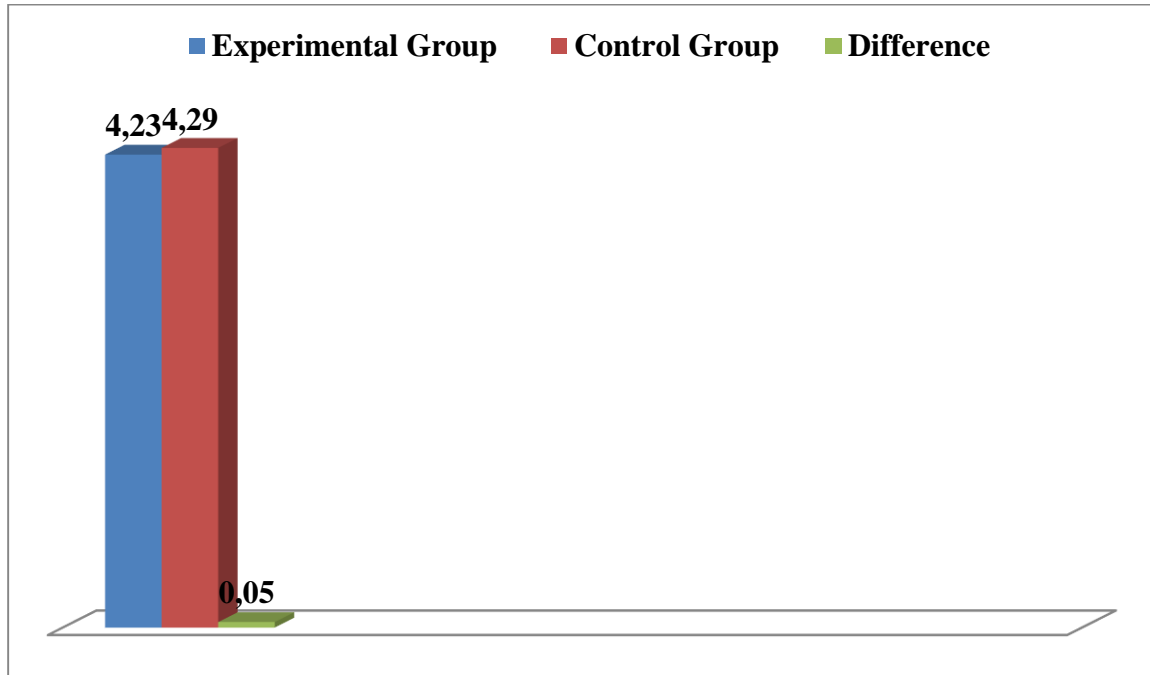


*Figure 19* Differences in Score Means of the EG and the CG in the Second Pre-test

A statistical analysis of the differences between the two groups before the start of the second phase of the experiment is required. Hence, using SPSS we have calculated the independent sample t-test (it checks for differences in the means of two groups on one variable). Results of this statistical analysis are presented in figures 20 and 21.

Results of this test show that the EG has (M= 4.23 and SD= 2.47) and the CG has (M= 4.29 and SD= 2.41). Results of the Levene's Test for Equality of Variances (Sig.= .96>.05 [statistically not significant]) indicates that "Equal variances are assumed". So, we read from the first row: t=-.81, df= 56, and Sig. (2-tailed)= .93. So, .93> .05.

It is expressed as: t=-.81,  df=56, p= .93 ns.

These results mean that there is no difference between students' performance in the EG and CG as far as this second pre-test is concerned. Similarity of the groups in terms of the dependent variable (research methodology performance) at the beginning of the second stage of the experiment provide evidence that the one month rest has no influence on students in terms of developing their KRM and RS in the four areas of research methodology that were the focus of the second phase of the experiment. Thus, it is safe that both groups have started the second phase of the experiment as equal groups in terms of the dependent variable.

**Group Statistics**

|  | group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| COMPRE2 | EG | 30 | 4,23 | 2,473 | ,452 |
|  | CG | 28 | 4,29 | 2,417 | ,457 |

*Figure 20* Group Statistics of the EG and the CG in the Second Pr-test

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval of the Difference | |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| COMPRE2 | Equal variances assumed | ,002 | ,962 | -,081 | 56 | ,935 | -,052 | ,643 | -1,340 | 1,235 |
|  | Equal variances not assumed |  |  | -,082 | 55,875 | ,935 | -,052 | ,642 | -1,339 | 1,234 |

*Figure 21* Independent Sample T-test of the EG and the CG in the Second Pre-test

*6.2.1.2.2 Results of the EG in Writing the Research Project*. Both groups were informed that they are expected to produce a research project at the end of another month teaching. The research proposals students have written in the first phase were of great help in completing the other steps of research process, which they will learn about in this second phase. The EG students worked in groups of three students, but the CG students worked individually. Reading and evaluating students' scores in writing small research projects, we come up with tables 48 and 49 and figure 22.

Table 48

*Scores of EG in Writing the Research Project[4]*

| Group | Student | I | L.R. | M.D. | D.A. | D.D | C | APA | Score |
|-------|---------|-----|------|------|------|------|-----|------|-------|
| 1 | Student 1<br>Student 2<br>Student 3 | 02.00 | 03.50 | 03.50 | 02.50 | 02.00 | 02.00 | 01.50 | 17.00 |
| 2 | Student 4<br>Student 5<br>Student 6 | 02.00 | 03.00 | 03.00 | 02.50 | 01.50 | 02.00 | 01.00 | 15.00 |
| 3 | Student 7<br>Student 8<br>Student 9 | 01.50 | 03.00 | 03.00 | 02.00 | 02.00 | 02.00 | 01.50 | 16.00 |
| 4 | Student 10<br>Student 11<br>Student 12 | 01.50 | 03.50 | 03.50 | 02.50 | 01.00 | 02.00 | 00.00 | 14.00 |
| 5 | Student13<br>Student 14<br>Student 15 | 01.50 | 03.50 | 02.50 | 01.50 | 01.50 | 00.50 | 01.00 | 12.00 |
| 6 | Student 16<br>Student 17<br>Student 18 | 02.00 | 03.50 | 02.00 | 03.00 | 01.50 | 01.50 | 01.50 | 15.00 |
| 7 | Student 19<br>Student 20<br>Student 21 | 01.50 | 02.50 | 03.50 | 02.50 | 00.50 | 02.00 | 00.50 | 13.00 |
| 8 | Student 22<br>Student 23<br>Student 24 | 02.00 | 03.50 | 03.00 | 01.50 | 02.00 | 01.50 | 01.50 | 15 |
| 9 | Student 25<br>Student 26<br>Student 27 | 01.50 | 03.00 | 03.00 | 02.00 | 01.50 | 01.00 | 01.00 | 13.00 |
| 10 | Student 28<br>Student 29<br>Student 30 | 01.00 | 02.50 | 02.00 | 02.50 | 01.50 | 01.50 | 00.00 | 11.00 |
| | | 16.50<br>Mean =<br>1.65 | 31.50<br>Mean =<br>3.15 | 29.00<br>Mean =<br>2.9 | 22.50<br>Mean =<br>2.25 | 15.00<br>Mean=<br>1.5 | 16.00<br>Mean=<br>1.6 | 09.50<br>Mean<br>0.95 | $\sum X_E$=<br>141<br><br>$\bar{X}$=<br>**14.1** |

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[4] I: introduction,  L.R.: literature review,  M.D.: methodology design,  D.A.: data analysis,  D.D.: data discussion, C: conclusion, APA: following the American psychological association style

Table 49

*Scores of the CG in Writing the Research Project*

| Student | I | L.R. | M.D. | D.A. | D.D | C | APA | Score |
|---------|-----|------|------|------|------|------|------|-------|
| **Student 1** | 02.00 | 01.50 | 02.50 | 02.50 | 02.00 | 01.50 | 01.00 | 13.00 |
| **Student 2** | 01.50 | 02.00 | 02.50 | 02.50 | 01.50 | 01.00 | 01.00 | 12.00 |
| **Student 3** | 00.50 | 03.00 | 02.00 | 01.50 | 00.50 | 00.50 | 00.00 | 08.00 |
| **Student 4** | 01.00 | 02.50 | 02.50 | 01.00 | 00.50 | 00.50 | 00.00 | 08.00 |
| **Student 5** | 02.00 | 03.00 | 02.50 | 03.00 | 02.50 | 02.00 | 02.00 | 17.00 |
| **Student 6** | 0.50 | 03.00 | 01.50 | 01.50 | 01.50 | 00.00 | 00.00 | 08.00 |
| **Student 7** | 01.50 | 02.50 | 03.50 | 01.50 | 01.50 | 00.50 | 00.00 | 11.00 |
| **Student 8** | 01.00 | 02.50 | 02.00 | 01.00 | 00.50 | 01.00 | 00.00 | 08.00 |
| **Student 9** | 01.50 | 02.00 | 02.50 | 01.50 | 00.00 | 00.50 | 00.00 | 08.00 |
| **Student10** | 02.00 | 03.00 | 02.50 | 02.50 | 01.50 | 02.00 | 01.50 | 15.00 |
| **Student11** | 01.50 | 03.00 | 01.50 | 01.50 | 01.00 | 00.50 | 00.00 | 09.00 |
| **Student12** | 01.50 | 03.00 | 03.50 | 02.00 | 00.50 | 01.50 | 01.00 | 13.00 |
| **Student13** | 00.50 | 03.50 | 02.50 | 01.00 | 00.00 | 00.50 | 00.00 | 08.00 |
| **Student14** | 01.50 | 03.00 | 03.00 | 03.00 | 02.50 | 02.00 | 02.00 | 17.00 |
| **Student15** | 02.00 | 03.50 | 03.00 | 03.00 | 01.50 | 02.00 | 02.00 | 17.00 |
| **Student16** | 01.50 | 03.00 | 03.50 | 02.00 | 02.00 | 01.00 | 00.00 | 13.00 |
| **Student17** | 02.00 | 03.00 | 02.50 | 03.00 | 02.50 | 01.50 | 01.50 | 16.00 |
| **Student18** | 01.50 | 03.50 | 02.00 | 03.00 | 02.00 | 01.50 | 01.50 | 15.00 |
| **Student19** | 01.00 | 03.50 | 04.00 | 02.50 | 01.00 | 00.50 | 01.50 | 14.00 |
| **Student20** | 00.50 | 03.00 | 03.00 | 02.00 | 00.50 | 00.00 | 00.00 | 09.00 |
| **Student21** | 01.50 | 03.00 | 02.50 | 01.50 | 00.00 | 00.50 | 00.00 | 09.00 |
| **Student22** | 00.50 | 02.50 | 02.50 | 01.50 | 01.00 | 01.00 | 00.00 | 09.00 |
| **Student23** | 01.00 | 02.50 | 03.00 | 01.50 | 00.00 | 01.00 | 00.00 | 09.00 |
| **Student24** | 01.00 | 02.00 | 02.50 | 01.00 | 01.00 | 00.50 | 00.00 | 08.00 |
| **Student25** | 00.50 | 03.50 | 02.50 | 01.50 | 00.00 | 00.00 | 00.00 | 08.00 |
| **Student26** | 01.50 | 03.00 | 02.00 | 01.00 | 00.00 | 00.50 | 01.00 | 09.00 |
| **Student27** | 01.00 | 03.50 | 02.50 | 02.00 | 01.50 | 01.50 | 00.00 | 12.00 |
| **Student28** | 01.00 | 03.00 | 02.00 | 02.00 | 01.00 | 01.00 | 00.00 | 10.00 |
| | 35.00 | 80.00 | 72.00 | 53.50 | 29.50 | 27.00 | 16.00 | $\sum X_C=$ 313 |
| | Mean= 1.25 | Mean= 2.85 | Mean= 2.57 | Mean= 1.91 | Mean= 1.05 | Mean= 0.96 | Mean= 0.57 | $\bar{X}=$ **11.18** |

*Figure 22* The Difference in the Mean between the EG and the CG in Writing Research Projects

To compare the scores of the EG and the CG in writing small research projects, they are analyzed statistically using the independent sample t-test. As it is shown in figure 23, the EG has (M= 14.10 and SD=1.78) and the CG has (M=11.18 and SD= 3.24). So, though the mean of the EG is higher than that of the EG, but SD of the EG is smaller than that of the EG. The less variability of the scores among students in the EG can be explained by the fact that they are worked in groups, so every three students have the same score. To find who really performed better than the other one, the independent sample t-test should be applied (see figure 24). The results of the Levene's Test for Equality of Variances (Sig.= .oo<.05) indicates that "Equal variances not assumed". So we read t- value, df, and Sig. (2-tailed) values in the second row.

t= 4.2

df= 41.38

Sig. (2-tailed)=.00< .001 < .05

According to these results, it is obvious that the EG outperformed the CG in writing research projects. Again, this proves the positive effect of interactive tutorials on students' performance in a research methodology course.

**Group Statistics**

| | group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| COMPRJ | EG | 30 | 14,10 | 1,788 | ,326 |
| | CG | 28 | 11,18 | 3,244 | ,613 |

*Figure 23* Group Statistics of the EG and the CG in Writing Research Projects

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| COMPRJ | Equal variances assumed | 17,864 | ,000 | 4,286 | 56 | ,000 | 2,921 | ,682 | 1,556 | 4,287 |
| | Equal variances not assumed | | | 4,206 | 41,384 | ,000 | 2,921 | ,695 | 1,519 | 4,324 |

*Figure 24* Independent Sample t-test Comparing the Mean Difference of the EG and the CG in Writing Research Projects

**6.2.1.2.3 Results of Post-test Two.** The last test that the participants took in this experiment is the second post-test. It tested students' knowledge and skills of research methodology on the areas that have been focused on in the second phase of the experiment. All the participants (EG and CG) were tested individually on content covered in one month teaching or tutoring. Results of students in this test are presented in table 50. Figure 25 shows the difference in mean between the scores of the EG and the CG.

Table 50

*Scores of Participants in the Second Post-test*

| Experimental Group | | Control Group | |
|---|---|---|---|
| **Student** | **Score** | **Student** | **Score** |
| **Student 1** | 17.00 | **Student 1** | 12.00 |
| **Student 2** | 15.00 | **Student 2** | 11.00 |
| **Student 3** | 15.00 | **Student 3** | 06.00 |
| **Student 4** | 10.00 | **Student 4** | 13.00 |
| **Student 5** | 14.00 | **Student 5** | 12.00 |
| **Student 6** | 16.00 | **Student 6** | 10.00 |
| **Student 7** | 16.00 | **Student 7** | 11.00 |
| **Student 8** | 15.00 | **Student 8** | 06.00 |
| **Student 9** | 12.00 | **Student 9** | 06.00 |
| **Student 10** | 15.00 | **Student 10** | 10.00 |
| **Student 11** | 13.00 | **Student 11** | 11.00 |
| **Student 12** | 12.00 | **Student 12** | 10.00 |
| **Student13** | 11.00 | **Student13** | 06.00 |
| **Student 14** | 13.00 | **Student 14** | 16.00 |
| **Student 15** | 12.00 | **Student 15** | 15.00 |
| **Student 16** | 16.00 | **Student 16** | 12.00 |
| **Student 17** | 11.00 | **Student 17** | 14.00 |
| **Student 18** | 14.00 | **Student 18** | 15.00 |
| **Student 19** | 12.00 | **Student 19** | 12.00 |
| **Student 20** | 12.00 | **Student 20** | 10.00 |
| **Student 21** | 11.00 | **Student 21** | 11.00 |
| **Student 22** | 16.00 | **Student 22** | 06.00 |
| **Student 23** | 13.00 | **Student 23** | 09.00 |
| **Student 24** | 10.00 | **Student 24** | 11.00 |
| **Student 25** | 11.00 | **Student 25** | 10.00 |
| **Student 26** | 12.00 | **Student 26** | 09.00 |
| **Student 27** | 13.00 | **Student 27** | 10.00 |
| **Student 28** | 11.00 | **Student 28** | 08.00 |
| **Student 29** | 11.00 | | |
| **Student 30** | 12.00 | | |
| $\sum X_E = 391$ | | $\sum X_C = 292$ | |
| **Mean = 13.03** | | **Mean = 10.43** | |
| **Difference in the means = 2.61** | | | |
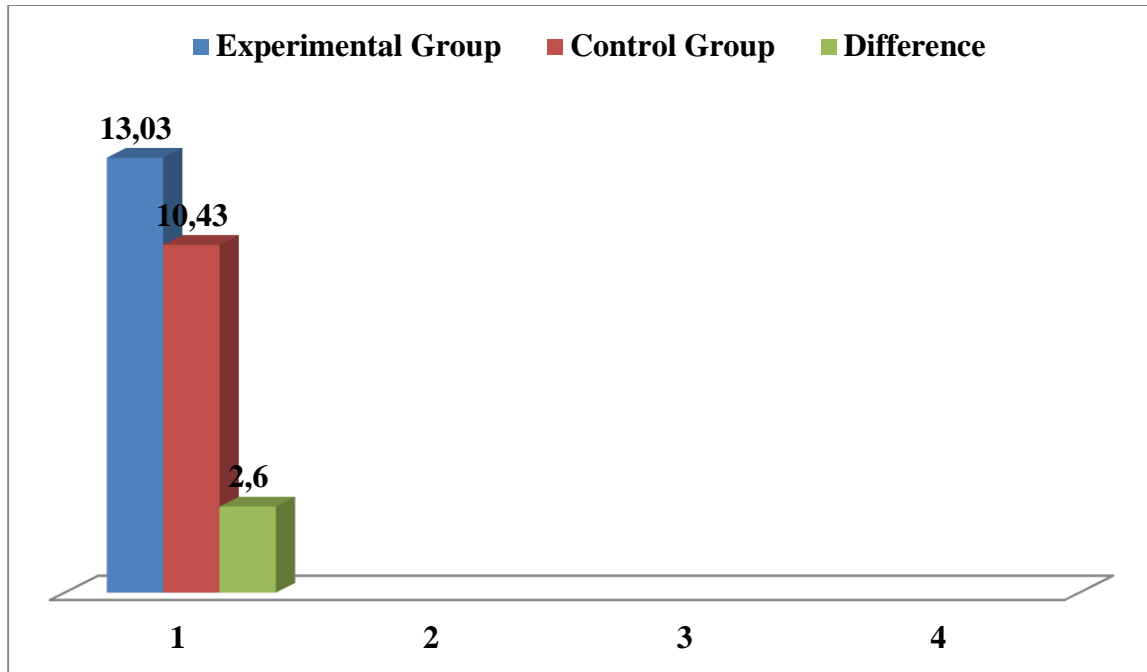
*Figure 25* The Difference in Mean between the EG and the CG in the Second Post-test

The scores of the two groups are tested for significant difference using the independent sample t-test. Results of this calculation are presented in figures 26 and 27. According to these two figures the EG has (M=13.03 and SD= 2.02) and the CG has (M=10.43 and SD= 2.80). The calculation of the Levene's Test for Equality of Variances (Sig.=.25>.05) indicates that Equal variance are assumed (first row), so we read: t= 4.07, df= 56, Sig.(2-tailed)=.00 (out of scale). Hence Sig. (2-tailed) < .05 and even < .001. As a result for 99 percent confidence interval the EG outperformed the CG in this second post-test of the second phase of the experiment. Consequently the null hypothesis is rejected and the alternative hypothesis is accepted. In other words, the positive effect of interactive tutoring on students' performance in research methodology course is statistically proved.

**Group Statistics**

| | group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| COMPOST2 | EG | 30 | 13,03 | 2,025 | ,370 |
| | CG | 28 | 10,43 | 2,808 | ,531 |

*Figure 26* Group Statistics of the EG and the CG in the Second Post-test

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| COMPOST2 | Equal variances assumed | 1,321 | ,255 | 4,072 | 56 | ,000 | 2,605 | ,640 | 1,323 | 3,886 |
| | Equal variances not assumed | | | 4,027 | 48,864 | ,000 | 2,605 | ,647 | 1,305 | 3,905 |

*Figure 27* The independent Sample T-test of the EG and the CG in the Second Post-test

### 4.3.1.2.4 Summary of the Second Phase of the Experiment

Table 51

*Means and Standard Deviations of the EG and CG in Phase 2 of the Experiment*

| Test | 2nd Pre-test | | Writing Research Project | | 2nd Post-test | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD |
| **EG (N=30)** | 4.23 | 2.47 | 14.10 | 1.78 | 13.03 | 2.02 |
| **CG (N=28)** | 4.29 | 2.41 | 11.18 | 3.24 | 10.43 | 2.80 |
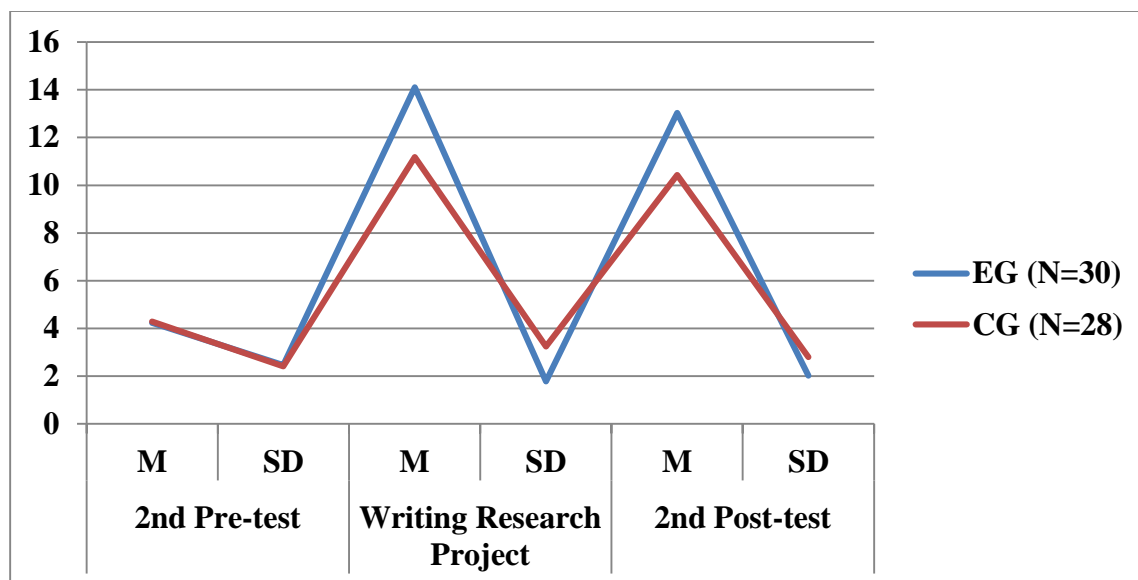
*Figure 28* Changes of Means and Standard Deviations of the EG and CG in the Second Phase of the Experiment

*6.2.1.3 Summary of the Statistical Analysis of the Data Gathered from both Phases of the Experiment.* All types of tests that the study participants took throughout the two phases of the experiment (2 pre-tests, writing a proposal, writing a small project, and 2 post-tests) were scored, analysed, and compared. Each phase focused on developing students' KRM and RS in certain areas of the process of research. In the first phase the focus was on finding a research problem (and all that has relationship with it like narrowing the topic, writing the statement of the problem, writing research question, and identifying the type of the question as qualitative or quantitative), determining research objectives, identifying hypothesis (-es), and writing a literature review (in a form of a five paragraph essay). In the second phase the focus was shifted to learning about: research design, data gathering tools (mainly questionnaire), data analysis and discussion (just descriptive analysis and not statistics, and discussion is written in at least four paragraphs essay), and writing up the research report (abstract, introduction, literature review, research design, data analysis, data discussion, conclusion, references [according to APA). This

content was taught differently for the EG and the CG. Interactive tutoring was the method that was used with the EG and traditional didactic lecturing was adopted with the CG.

The statistical analyses of both groups' scores in all tests show that at the beginning of each phase students' KRM and RS are under average and they are similar. However, it was observed that the EG outperformed the CG in both writing research proposals and writing research projects. In addition, the performance of the EG in both post-tests proved that the manipulation of the independent variable (interactive tutoring) has positive influence on students' KRM and RS. Table 52 summarises the main statistical values of all t-tests that compared the mean scores of the EG and the CG in both phases of the experiment.

Table 52

*Summary of the Results of the Parametric Independent Samples t-tests*

| Group | Phase one | | | Phase two | | |
|---|---|---|---|---|---|---|
| | **Pre-test** | **Proposal** | **Post-test** | **Pre-test** | **Project** | **Post-test** |
| **EG & CG** | p=.94>.05 **No difference** | p=.002<.05 **Significant difference** | p=.00<.05 and <001 **Strong significant difference** | p=.93>.05 No difference | p=.00<.05 and <001 **Strong significant difference** | p=.00<.05 and <001 **Strong significant difference** |

### 6.2.2 Analysis of Classroom Observation

During the whole experiment the researcher observed how interactive students were in each tutoring session. With an observation grid, students' interactivity was evaluated on a five-point scale ranging from very interactive to passive. Each point in this scale is well described for better judgment of students' behaviour. The obtained observation grids of the eight tutorials are summarised in table 53. The Analysis of this table will be reinforced with some field notes that were taken at the level of both group and class interactions.

Table 53

*Results of the Eight Observation Grids*

| Tutorial | Option | | | | |
|---|---|---|---|---|---|
| | **Very interactive** | **Interactive** | **Not fully interactive** | **Slightly interactive** | **Passive** |
| **1** | 0(0%) | 13(43.33%) | 12(40%) | 5(16.66%) | 0(0%) |
| **2** | 13(43.33%) | 12(40%) | 5(16.66%) | 0(0%) | 0(0%) |
| **3** | 10(33.33%) | 11(36.66%) | 9(30%) | 0(0%) | 0(0%) |
| **4** | 7(23.33%) | 7(23.33%) | 10(33.33%) | 6 (20%) | 0(0%) |
| **5** | 16(53.33%) | 10(33.33%) | 4 (13.33%) | 0(0%) | 0(0%) |
| **6** | 15(50%) | 15(50%) | 0(0%) | 0(0%) | 0(0%) |
| **7** | 18(60%) | 11(36.66%) | 1(3.33%) | 0(0%) | 0(0%) |
| **8** | 7(23.33%) | 18(60%) | 5(16.66%) | 0(0%) | 0(0%) |

The results reported in table 53 indicate the degree of interactivity of students in each tutorial. It is worth mentioning that the tutor had adopted interactive teaching methods in each tutorial which help students reflect on their learning, interact in dialogue modes with their peers and with the tutor, complete each other's knowledge, and co-construct knowledge. The aim behind adopting this teaching methodology was to facilitate students' learning of what was considered a difficult subject in their degree program that is research methodology. Dividing students in groups of three and doing each tutorial with three or four groups maximum made the implantation of ITM applicable.  In addition, the activities of each tutorial were designed with aim to lead students smoothly toward realizing their own research studies. So, activities were structured in a way that each group solve them according to their own research projects. Both within group and class discussion were highly encouraged throughout the eight tutorials. However, no matter how hard it was to make all students interactive, it was observed that there was a kind of resistance from the part of some students not to be engaged with especially their peers let alone engaging in class discussions.

In the eight tutorials, students' degree of interactivity changed. In tutorial one no great deal of discussions were noticed, but 43.33% of the students contributed average degree of discussions, and 40% of them sometimes participated in group discussions. Only 5 students out of 30 (16%) rarely contributed any type of discussions with their peers and with the tutor in this first tutorial. The level of interactivity in tutorial one can be considered moderate.

The percentages of interactivity in tutorial two clearly changed. A number of students (43.33%) become more interactive and they contributed great deal of discussions with their peers and in class, and 40% of the students contributed average degree of both group and class discussions. The number of students who sometimes were interactive decreased to 5 (16.66%) and no students was observed to be either rarely participating in discussion or passive.

In tutorial three, students were also interactive but not like in the previous tutorial. So, 10 students were very interactive, 11, interactive, and 9 not fully interactive. However, no student was observed to be slightly interactive or passive at all.

Tutorial four which was about reviewing the literature step of research witnessed another decrease in the number of students who were very interactive and interactive (23.33% and 23.33%) and an increase in the number of students who were not fully interactive during the tutorial (33.33%) or slightly contributing in discussions (20%).

The interactivity of students noticeably increased in tutorial five. So, more than half of the students were very interactive (53.33%), 33.33% were interactive, and only 4 (13.33%) were not fully interactive. In this tutorial no student was either observed to be slightly interactive or passive.

The apex of students' interactivity was reached in tutorial six in which they were asked to design their data gathering tools (questionnaires) for their studies. Half of the students were very interactive and half of them were interactive. However, no student was observed to be reluctant to participate in activities or to be passive.

In tutorial seven, students were very interested in analysing their questionnaires. So, 18 (60%) students were very interactive, and it is the highest number since the start of the tutorials. In addition, 11 students were also interactive, but just one sometimes was interactive. Lack of interactivity or passivity were absent in this tutorial.

In the eighth tutorial, last one, students kept interactive but their number decreased compared to tutorial seven. The number of students who contributed average participation was 18 (60%) and it is the highest among all tutorials. 5 students were not fully engaged in this tutorials. Nonetheless, group and class discussion were kept constant during the whole session.

All in all, in all the eight tutorials students showed great accountability for their learning. In spite of the fact that some groups were more interactive than others, and some students were more active than their peers in the same group, instructive discussions were held constant and students' wiliness to interact with their peers and with the tutor drastically increased throughout the eight tutoring sessions. Students' both research methodology knowledge and skills were observed to develop and their questions became advanced. Indeed, constant observations on students' interactivity during tutorials gave another indication on the success of ITM in promoting students' KRM and RS and more importantly their positive attitudes toward the subject of research methodology.

**6.2.3 Discussion of the Results Gained from the Experimental Design**

The second part of the study design is concerned about implementing ITM in real context. With different ideas about the status of the research methodology teaching at the department  of English, Batna 2 university, and through investigating students' knowledge, skills, and attitudes about research methodology, eight tutorials were designed with the purpose to encourage students to be as interactive as possible. The significance of the interactivity of students to their learning is well established in literature.

The thirty students (n=30) in the experimental group were taught steps of the research process in an interactive way during eight tutoring sessions in two phases. Each phase was proceeded by a pre-test and a post test assessing students of the EG and CG knowledge and skills of research.  In addition, EG and CG students (n=58) were assessed through writing research proposals and research projects in the first and second phases respectively. Different comparisons between the means of scores of both groups, in all types of assessments used in this experiment, revealed that students' KRM and RS were equal at the start of each phase and their level in research methodology in general was below average. Comparison of the mean scores of students in writing research proposals revealed that there was significance difference between the two groups and the EG outperformed the CG. So, the treatment that was applied with the EG had positive effect on students' KRM and RS. The second comparison was done at the level of the mean scores of both groups in writing research projects. Again the significance difference that was proved by the t-test weighed the EG as better than the CG at this regard. The most critical comparison was done at the level of the post tests of the two phases. In both tests the EG outperformed the CG, but in the second post the significance of the difference between the two groups was even higher. Hence, the EG performance in the second phase of the experiment was

far better than the first phase. The positive influence of interactive tutorials on students was statistically proved in the analysis of the results of the different tests. These results automatically reject the null hypothesis and accept the alternative one.

In order to reinforce these statistical findings, eight observation grids were used to check students' real interactivity during the two phases of the experiment. Results of the analysis of the observation grids presented above indicate that all students contributed different degrees of interactivity with their group members and with the tutor. No student was observed to be completely passive. Moreover, some students showed more interactivity in some tutorials over others. However, the second phase of the experiment witnessed greater interactivity and engagement compared to the first phase of the experiment.  In tutorials six and seven, which were concerned by designing questionnaires and analyzing data gathered from them, students were extremely active and interactive. Indeed, students were accountable about understanding each step of research very well in order to write good research proposals and research projects.

To sum up, in addition to measured KRM and RS development of the students of the EG, taught through interactive tutorials, compared to students of the CG, taught through didactic traditional lecturing, it was observed that the EG students developed positive attitudes toward learning about research methodology. However, it was deemed very important to evaluate students' experience with the eight interactive tutorials, and in the next section analysis and discussion of both group and individual evaluations, though group evaluation forms and post-experiment questionnaire, will be presented in order to find more about how they assess their contribution and the contribution of the tutor in developing their KRM, RS, and attitudes toward research methodology.

**6.3 Analysis and Discussion of the Instruments Used after the Intervention**

As it has been mentioned in the methodology chapter, after the intervention the researcher gathered data to evaluate the experimental group's overall learning experience. For this end, two data gathering tolls were used: the first one is Group Evaluation Forms filled by the experiment group members at the end of each tutorial (it was done in groups) and an evaluation questionnaire administered via email to the same group but answered individually. So, this section presents the analysis and interpretations of data collected from these two instruments.

**6.3.1 Analysis of Evaluation Forms**

This data gathering tool is meant to assess students' experiences in having interactive tutorials in research methodology course. On the basis of ten criteria, students were asked to rate the eight tutorials, that they had with the researcher herself, on five-point scale ranging from highly unfavorable to highly favorable. Giving each group of students these evaluation forms permitted for completion on the right time; that is, after each tutorial members of each group fill the form with their own appropriate observations. Table 54 summarizes the answers of 10 sub-groups of the EG to the group evaluation forms.

Table 54

*Group Evaluation Forms of the Eight Tutorials*

| Criteria | Tutorial 1 | | | | |
|---|---|---|---|---|---|
| | 1.Highly unfavorable | 2.Unfavorable | 3.Neutral | 4.Favorable | 5Highly favorable |
| 1.The tutorial was clearly structured. | 1(10%) | 2 (20%) | 0 (0%) | 2 (20%) | 5 (50%) |
| 2. The main points given were clear and understandable | 0 (0%) | 2(20%) | 0 (0%) | 5(50%) | 3 (30%) |

| | 1.Highly unfavorable | 2.Unfavorable | 3.Neutral | 4.Favorable | 5.Highly favorable |
|---|---|---|---|---|---|
| **3.** The activities given were relevant and interesting | 0 (0%) | 1(10%) | 0 (0%) | 3 (30%) | 6 (60%) |
| **4.** The amount of material covered was right for me. | 0 (0%) | 2(20%) | 0 (0%) | 5 (50%) | 3(30%) |
| **5.** The pace (speed) was right for me. | 2(20%) | 1 (10%) | 0 (0%) | 4(40%) | 3(30%) |
| **6.** The tutorial was audible. | 1 (10%) | 2(20%) | 0 (0%) | 5 (50%) | 2(20%) |
| **7.** The tutorial was well presented. | 2(20%) | 1(10%) | 0 (0%) | 4 (40%) | 3(30%) |
| **8.** The tutorial held my attention all the time. | 2(20%) | 1(10%) | 0 (0%) | 1(10%) | 6(60%) |
| **9.** The teacher managed class discussions. | 0 (0%) | 0 (0%) | 0 (0%) | 1(10%) | 9 (90%) |
| **10.** The teacher summarized the main points of the tutorial effectively. | 1(10%) | 2(20%) | 0 (0%) | 2(20%) | 5 (50% |

| Criteria | Tutorial 2 | | | | |
|---|---|---|---|---|---|
| | **1.Highly unfavorable** | **2.Unfavorable** | **3.Neutral** | **4.Favorable** | **5Highly favorable** |
| **1.**The tutorial was clearly structured. | 0(0%) | 1(10%) | 0 (0%) | 5(50%) | 4(40%) |
| **2.** The main points given were clear and understandable | 1(10%) | 2(20%) | 0 (0%) | 2(20%) | 5(50%) |
| **3.** The activities given were relevant and interesting | 1(10%) | 1(10%) | 0 (0%) | 2(20%) | 6(60%) |
| **4.** The amount of material covered was right for me. | 2 (20%) | 2(20%) | 0 (0%) | 4(40%) | 2 (20%) |
| **5.** The pace (speed) was right for me. | 1(10%) | 2(20%) | 0 (0%) | 0 (0%) | 7(70%) |

| 6. The tutorial was audible. | 3(30%) | 0(0%) | 0 (0%) | 3(30%) | 4(40%) |
|---|---|---|---|---|---|
| 7. The tutorial was well presented. | 1(10%) | 1(10%) | 0 (0%) | 3(30%) | 5(50%) |
| 8. The tutorial held my attention all the time. | 1(10%) | 2(20%) | 0 (0%) | 1(10%) | 6(60%) |
| 9. The teacher managed class discussions. | 2(20%) | 1(10%) | 0 (0%) | 0(0%) | 7(70%) |
| 10. The teacher summarized the main points of the tutorial effectively. | 3(30%) | 0(0%) | 0 (0%) | 1(10%) | 6(60%) |

| Criteria | Tutorial 3 | | | | |
|---|---|---|---|---|---|
| | 1.Highly unfavorable | 2.Unfavorable | 3.Neutral | 4.Favorable | 5Highly favorable |
| 1.The tutorial was clearly structured. | 1(10%) | 0 (0%) | 0(0%) | 3(30%) | 6(60%) |
| 2. The main points given were clear and understandable | 0(0%) | 2(20%) | 0(0%) | 2(20%) | 6(60%) |
| 3. The activities given were relevant and interesting | 1(10%) | 0(0%) | 0(0%) | 2(20%) | 7(70%) |
| 4. The amount of material covered was right for me. | 2(20%) | 0(0%) | 0(0%) | 1(10%) | 7(70%) |
| 5. The pace (speed) was right for me. | 0(0%) | 1(10%) | 0(0%) | 1(10%) | 8(80%) |
| 6. The tutorial was audible. | 1(10%) | 1(10%) | 0(0%) | 1(10%) | 7(70%) |
| 7. The tutorial was well presented. | 1(10%) | 0(0%) | 0(0%) | 1(10%) | 8(80%) |
| 8. The tutorial held my attention all the time. | 1(10%) | 2(20%) | 0(0%) | 0(0%) | 7(70%) |
| 9. The teacher managed class | 1(10%) | 1(10%) | 0(0%) | 0(0%) | 8(80%) |

| discussions. | | | | | |
|---|---|---|---|---|---|
| **10.** The teacher summarized the main points of the tutorial effectively. | 2(20%) | 0(0%) | 0(0%) | 1(10%) | 7(70%) |

| Criteria | Tutorial 4 | | | | |
|---|---|---|---|---|---|
| | **1.Highly unfavorable** | **2.Unfavorable** | **3.Neutral** | **4.Favorable** | **5Highly favorable** |
| **1.**The tutorial was clearly structured. | 1(10%) | 1(10%) | 0(0%) | 3(30%) | 5(50%) |
| **2.** The main points given were clear and understandable | 2(20%) | 2(20%) | 0(0%) | 4(40%) | 2(20%) |
| **3.** The activities given were relevant and interesting | 0(0%) | 1(10%) | 0(0%) | 5(50%) | 4(40%) |
| **4.** The amount of material covered was right for me. | 0(0%) | 2(20%) | 0(0%) | 6(60%) | 2(20%) |
| **5.** The pace (speed) was right for me. | 0(0%) | 2(20%) | 0(0%) | 1(10%) | 7(70%) |
| **6.** The tutorial was audible. | 1(10%) | 3(30%) | 0(0%) | 4(40%) | 2(20%) |
| **7.** The tutorial was well presented. | 1(10%) | 1(10%) | 0(0%) | 3(30%) | 5(50%) |
| **8.** The tutorial held my attention all the time. | 0(0%) | 1(10%) | 0(0%) | 2(20%) | 7(70%) |
| **9.** The teacher managed class discussions. | 1(10%) | 0(0%) | 0(0%) | 1(10%) | 8(80%) |
| **10.** The teacher summarized the main points of the tutorial effectively. | 2(20%) | 0(0%) | 0(0%) | 0(0%) | 8(80%) |

| Criteria | Tutorial 5 | | | | |
|---|---|---|---|---|---|
| | **1.Highly unfavorable** | **2.Unfavorable** | **3.Neutral** | **4.Favorable** | **5Highly favorable** |

| | | | | | |
|---|---|---|---|---|---|
| **1.**The tutorial was clearly structured. | 1(10%) | 1(10%) | 0(0%) | 6(60%) | 2(20%) |
| **2.** The main points given were clear and understandable | 0(0%) | 2(20%) | 0(0%) | 5(50%) | 3(30%) |
| **3.** The activities given were relevant and interesting | 0(0%) | 1(10%) | 0(0%) | 7(70%) | 2(20%) |
| **4.** The amount of material covered was right for me. | 0(0%) | 1(10%) | 0(0%) | 4(40%) | 5(50%) |
| **5.** The pace (speed) was right for me. | 0(0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **6.** The tutorial was audible. | 1(10%) | 1(10%) | 0(0%) | 5(50%) | 3(30%) |
| **7.** The tutorial was well presented. | 1(10%) | 1(10%) | 0(0%) | 6(60%) | 2(20%) |
| **8.** The tutorial held my attention all the time. | 1(10%) | 2(20%) | 0(0%) | 4(40%) | 3(30%) |
| **9.** The teacher managed class discussions. | 0(0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **10.** The teacher summarized the main points of the tutorial effectively. | 0(0%) | 0(0%) | 0(0%) | 5(50%) | 5(50%) |
| **Criteria** | **Tutorial 6** | | | | |
| | **1.Highly unfavorable** | **2.Unfavorable** | **3.Neutral** | **4.Favorable** | **5Highly favorable** |
| **1.**The tutorial was clearly structured. | 0 (0%) | 0(0%) | 1(10%) | 4(40%) | 5(50%) |
| **2.** The main points given were clear and understandable | 0(0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **3.** The activities given were relevant and interesting | 0(0%) | 1(10%) | 1(10%) | 5(50%) | 3(30%) |

| | 1.Highly unfavorable | 2.Unfavorable | 3.Neutral | 4.Favorable | 5Highly favorable |
|---|---|---|---|---|---|
| **4.** The amount of material covered was right for me. | 0(0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **5.** The pace (speed) was right for me. | 0(0%) | 0(0%) | 1(10%) | 4(40%) | 5(50%) |
| **6.** The tutorial was audible. | 0(0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **7.** The tutorial was well presented. | 0(0%) | 0(0%) | 1(10%) | 4(40%) | 5(50%) |
| **8.** The tutorial held my attention all the time. | 0(0%) | 2(20%) | 1(10%) | 4(40%) | 3(30%) |
| **9.** The teacher managed class discussions. | 0(0%) | 0(0%) | 2(20%) | 5(50%) | 3(30%) |
| **10.** The teacher summarized the main points of the tutorial effectively. | 0(0%) | 0(0%) | 1(10%) | 4(40%) | 5(50%) |

| Criteria | Tutorial 7 | | | | |
|---|---|---|---|---|---|
| | **1.Highly unfavorable** | **2.Unfavorable** | **3.Neutral** | **4.Favorable** | **5Highly favorable** |
| **1.**The tutorial was clearly structured. | 0 (0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **2.** The main points given were clear and understandable | 0(0%) | 0(0%) | 1(10%) | 5(50%) | 4(40%) |
| **3.** The activities given were relevant and interesting | 0(0%) | 0(0%) | 0(0%) | 4(40%) | 6(60%) |
| **4.** The amount of material covered was right for me. | 0(0%) | 0(0%) | 0(0%) | 6(60%) | 4(40%) |
| **5.** The pace (speed) was right for me. | 0(0%) | 0(0%) | 0(0%) | 7(70%) | 3(30%) |
| **6.** The tutorial was audible. | 0(0%) | 0(0%) | 1(10%) | 3(30%) | 6(60%) |
| **7.** The tutorial was well | 0(0%) | 1(10%) | 1(10%) | 3(30%) | 5(50%) |

| | 1.Highly unfavorable | 2.Unfavorable | 3.Neutral | 4.Favorable | 5Highly favorable |
|---|---|---|---|---|---|
| presented. | | | | | |
| **8.** The tutorial held my attention all the time. | 0(0%) | 1(10%) | 1(10%) | 4(40%) | 6(60%) |
| **9.** The teacher managed class discussions. | 0(0%) | 0(0%) | 2(20%) | 4(40%) | 4(40%) |
| **10.** The teacher summarized the main points of the tutorial effectively. | 0(0%) | 1(10%) | 2(20%) | 4(40%) | 3(30%) |

| **Criteria** | **Tutorial 8** | | | | |
|---|---|---|---|---|---|
| | **1.Highly unfavorable** | **2.Unfavorable** | **3.Neutral** | **4.Favorable** | **5Highly favorable** |
| **1.**The tutorial was clearly structured. | 0(0%) | 1(10%) | 1(10%) | 4 (40%) | 4(40%) |
| **2.** The main points given were clear and understandable | 0(0%) | 1(10%) | 1(10%) | 5(50%) | 3(30%) |
| **3.** The activities given were relevant and interesting | 0(0%) | 1(10%) | 0(0%) | 6 (60%) | 3(30%) |
| **4.** The amount of material covered was right for me. | 0(0%) | 1(10%) | 0(0%) | 5(50%) | 4(40%) |
| **5.** The pace (speed) was right for me. | 1(10%) | 1(10%) | 0(0%) | 5(50%) | 3(30%) |
| **6.** The tutorial was audible. | 0(0%) | 1(10%) | 1(10%) | 4(40%) | 4(40%) |
| **7.** The tutorial was well presented. | 1(10%) | 1(10%) | 1(10%) | 4(40%) | 3(30%) |
| **8.** The tutorial held my attention all the time. | 1(10%) | 0(0%) | 0(0%) | 5(50%) | 4(40%) |
| **9.** The teacher managed class discussions. | 0(0%) | 1(10%) | 0(0%) | 4(40%) | 5(50%) |
| **10.** The teacher summarized the | 0 (0%) | 1(10%) | 0(0%) | 3(30%) | 6(60%) |

| main points of the tutorial effectively. |
| --- |

It is observed from table 54 that students' views on different aspects of the eight tutorials were both similar and different. As far as the structure, clarity of the content, and activities, amount of content, of the tutorial (criteria1, 2, 3, & 4) are concerned, few students either strongly un-favored or just un-favored them and the majority of the groups had positive attitudes toward content aspect of the tutorials. A quick comparison of the eight tutorials on the first four aspects of this evaluation form indicates that groups' negative opinions decreased from the first tutorial toward the last one. Hence, the amount and quality of content (activities) were favored by the experiment participants and positive attitudes were developed.

Criteria 5, 6, 7 and 8 are about the overall management of the tutorial (like pace, audibility, presentation, interest), and it is observed that for these four criteria it is found that a small number of groups rated them as either highly unfavorable or unfavorable (from 0% to 30%). Thus, it is safe to say that most of the participants favored the general tutorials' organization and presentation, and the majority were interested by how the tutor guided the pace of the tutoring sessions.

The last two criteria are related to the tutor herself. They are about the extent to which the tutor could manage class discussions and the extent to which she was effective in summarizing the main points of each tutorial. It is noticed that the number of students who did not rated well these two criteria range between 0% to 30% maximum which is small compared to the number of students who favored or strongly favored these attributes in the tutor. Tutorial two was the least favored as far as these two criteria are concerned and students commented that choosing research problems is highly debatable topic and the amount of information about quantitative and

qualitative research problems overwhelmed them. In addition, talking about variables in the same tutorial even complicated the task of especially summarizing the main points- some points were not summarized at the end of the tutorial. In tutorial five, all the students favored the way the tutor moderated the class discussions, and they were thankful for the precision in summarizing the main points about how the study designs of their research studies should be structured.

All in all, it was remarked that the eight tutorials which were designed by the researcher were a good experience to the students as they have written some comments by the end of these evaluation forms like:"All tutorials were interesting, some probably needed more time to be grasped better but time was our main problem". Because this group of students appreciated the What and the How of all tutorials, they wanted them to last for longer to benefit more from them. Another group of students wrote "the first tutorial was kind of messy, but the rest were good. You succeeded to manage class discussions. We liked the tutorials, thank you". We do agree with them on the point that in the first tutorial, the amount of activities was big compared to the actual timing, and students felt stressed to do all of them during one hour time. So, though discussion took place and we summarized some points, the pace was quick to some groups. The last example of students comments was very encouraging as students said "We enjoyed the tutorials, the activities were interesting and helpful. These comments also consolidate our observation during all tutorials about the interactivity of students because as it was explained in the section of observation analysis students gradually become interactive and promoted positive attitudes toward learning about research methodology.

## 6.3.2 Analysis of Post-Experiment Questionnaire

At the end of this empirical study, the researcher wanted to evaluate the overall experience of the experimental group with tutoring and interactive teaching methods. A

questionnaire which was composed of four sections with a total of 20 questions was administered individually to this group of students via their emails. Compared to the pre-experiment students' questionnaire (which was answered by all 30 students), this questionnaire was answered by 20 students (that is 66.66%). We sent the questionnaire three times, but we could get only this number of answered questionnaires. What follows is a descriptive analysis of students' answers to this questionnaire.

*Section One: the content Covered during Tutorials. Under this section six questions were asked. The analysis of each item is either presented quantitatively in tables with numbers and percentages or qualitatively under sub-titles.*

**Item 1.** After eight tutorials in research techniques course evaluate the following statements as:

① Strongly disagree ② Disagree ③ Agree ④ Strongly Agree

*Table 55*

*Rating of Tutorials' Content*

| Statements | ① | ② | ③ | ④ |
|---|---|---|---|---|
| **1.** The tutorials were organized according to the steps of the research process. | 3(15%) | 3(15%) | 7(35%) | 7(35%) |
| **2.** The eight steps of the research process were fully practiced during these tutorials. | 1(5%) | 3(15%) | 12(60%) | 4(20%) |
| **3.** The tutorials served the lectures; they made them more comprehensive. | 2(10%) | 3(15%) | 10(50%) | 6(30%) |
| **4.** The types of activities in the tutorials covered the most important points of each lecture. | 2(10%) | 2(10%) | 9(45%) | 7(35%) |
| **5.** The number of activities within each tutorial was adequate to the time of the each session and also to your level of comprehension. | 4(20%) | 5(25%) | 7(35%) | 4(20%) |

The five statements of table 55 are about what was presented in the eight tutorials. Participants were asked to rate each statement on a four-point scale ranging from strongly disagrees to strongly agree. As it is observed on this table the majority of the students (70%)

agree that the tutorials follow the steps of research that they are supposed to focus on at this level. In addition, 80% of them agree that these steps of research are well practiced during the tutorials. Hence, it is agreed (80%) that each tutorial facilitated the comprehension of the lecture (presented online) that was meant to consolidate and main points of each lecture were highlighted during each tutorial (statements 3 and 4). However, almost half of the number of the respondents disagrees on the fact that the timing of each tutorial fit the number of activities and students' level of comprehension. Actually even in the Group Evaluation Forms analysed in the previous section, some students complained about the factor of time. Even though, 55 % of the students agree that the time of each tutorial was adequate to the number of activities practiced.

### *Item 2. Difficulty of Activities in Each Tutorial*

Table 56

*Difficulty of Activities in Each Tutorial*

| Option | Very difficult | Difficult | Adequate | Easy | Very easy |
|---|---|---|---|---|---|
| N(%) | | 5(25%) | 12 (60%) | 3(15%) | |

As far as the difficulty of the activities is concerned, it is observed that the majority of the respondents (60%) viewed them as adequate to their level. A minority of the students either believed that they are either difficult or easy.

### *Item 3. Course Lectures and Understanding of Tutorials' Activities*

Table 57

*Course Lectures and Understanding of Tutorials' Activities*

| Option | Yes | No |
|---|---|---|
| N(%) | 20 (100%) | 0 (0%) |

Before the start of the tutorials, students have downloaded lectures from the researcher's website. The lectures tackled the different steps of the research process. So as it is indicated by table 57, all the students agree that course lectures are of great help in doing tutorials activities. A student explained that" the lectures were thorough and contained the necessary amount of information that a student needs in order to grab hold of the basics and important points to understand each tutorial", and another one said" when I read the course lectures, I felt comfortable and active during the tutorials, and I was able to understand each sentence in the tutorial. So, I faced no problem when solving them".

### Item 4. Summarising Lectures and Tutorials Comprehension

Table 58

*Summarising Lectures and Tutorials Comprehension*

| Option | Yes | No |
|--------|-----|-----|
| N(%) | 20 (100%) | 0 (0%) |

After the first tutorial, we asked students to collaboratively summarise each lecture before its corresponding tutorial. As table 58 indicates, 100% of the participants believed that this technique helped them more in doing tutorial activities properly. Students commented on this question by saying that this technique helped them prepare their questions to be asked during tutorials, for example a student said: " the technique of summarising lectures before attending tutorials was very helpful in doing the activities of each tutorial as it reminded me of the main points of each course so that I can solve the tutorial easily. Indeed, students' were interactive during most of the tutoring sessions and their questions raised fruitful discussions.

### Item 5. The overall organization of the tutorial

Table 59

*The Overall Organization of the Tutorial*

| Option | Yes | No |
|--------|-----|-----|

| N(%) | 20 (100%) | 0 (0%) |
|---|---|---|

Questions 5 was meant to know whether the organization of the activities in tutorials was easy to follow and all the respondents (100%) agreed that all tutorials were clear and well organised. This indicates that tutorials layout even helped students in smoothly doing their activities.

***Item 6. Students' Satisfaction with the Content Presented During the Eight Tutorials and Their KRM and RS Development.*** In this open ended question, it is noticed that the 20 respondents are very or just satisfied with the development of their knowledge about and skills of research methodology. They explained that the tutorials introduced new information and practical ideas of how to conduct research in their field of study. However, their satisfaction was always conditioned by the time of the tutorials, and they wished if time was extended to practice more and to have more activities. Here is n example of a student' answer to this item "I'm pretty satisfied with what I acquired, although the time was not much. The information provided and the tasks assigned were enough to get a clear picture".

*Section Two: The Students' Interactions during Tutorials*

*Item 7. Students' Interactions during the Tutorials*

Table 60

*Students' Interactions during the Tutorials*

| Option | Very interactive | Interactive | Somehow interactive | Not interactive |
|---|---|---|---|---|
| | 4(20%) | 8 (40%) | 7(35%) | 1(5%) |

As it is indicated by table 60, most of the students were interactive with their peers during the eight tutoring sessions. However, their degree of interactivity ranges from very interactive

(20%), interactive (40%), to somehow interactive (35%). Only one student said that he was not interactive.

### Item 8. Frequency Of Asking Questions Among Group Members

Table 61

*Frequency of Asking Questions among Group Members*

| Option | Very often | Often | Sometimes | Rarely | Never |
|---|---|---|---|---|---|
| N(%) | 3(15%) | 3(15%) | 12(60%) | 1(5%) | 1(5%) |

When asked about their frequency of asking questions about difficult points in the tutorials, most of the students sometimes did that (60%). Asking questions for some students is done either very often or often (30%), but it is rarely or never done by 10% of the population. Indeed, asking questions is one of the techniques that help students be interactive.

### Item 9. Interacting via Google Classroom

Table 62

*Interacting via Google Classroom*

| Option | Yes, I often ask questions | Yes, a couple of times | Yes, once | Never |
|---|---|---|---|---|
| | 4(20%) | 11(55%) | 3(15%) | 2(10%) |

Because of the COVID-19 health protocol, students' face-to face contact with each other decreased. So, we created a Google classroom virtual community to encourage more interaction among the EG students. Answers to this item, as presented in table 62, show that students did ask questions (75%) which indicates that there was interactivity in this online space. Nonetheless, few students had never interacted with their peers in this platform.

*Items 10 & 11. Collaboration among Group Members*

Table 63

 Collaboration among Group Members and the tutor

| Option | Yes | No |
|---|---|---|
| | 20 (100%) | 0(0%) |
| | **Yes** | **No** |
| | 20 (100%) | 0(0%) |

In spite of the fact that there are some students who said in items 8 and 9 that they never ask questions face to face or online, table 663 shows that all group members (100%) were collaborative in doing the activities of the eight tutorials. This also reinforces our observation about how interactive the students were in the tutoring sessions.

Students' answers to this question (100%) indicate that interaction with the tutor was also guaranteed. It also shows that all groups were equally given chance in terms of class discussion and the tutor guided all of them.

*Item 12.  Collaboration among Group Members and Motivation to Learn about RM.* This last item in this section is open ended and it asks students to provide their own answers. Students held positive attitudes toward the experience of working in groups. They thought that they were kept motivated and interested in tutorials' activities thanks to their interactions with their peers by discussing and arriving at group solutions. One student said" Being in groups motivates students into working more and learning more and even asking more questions" and another one said " I was very motivated by the collaboration with my classmates and this encouraged me to learn more about research methodology"

*Section Three: Evaluation of RM Knowledge and Skills Development through Conducting Research Projects*

*Item 13. Students' Evaluations of the Steps of Their Research Projects*

Table 64

*Students' Evaluations of the Steps of Their Research Projects*

| Statements | Very easy | Easy | Difficult | Very difficult |
|---|---|---|---|---|
| 1. Formulating the research question (narrowing down the topic) | 7(35%) | 12(60%) | 1(5%) | 0(0%) |
| 2. Determining research objectives | 10(50%) | 10(50%) | 0(0%) | 0(0%) |
| 3. Reviewing the literature | 0(0%) | 0(0%) | 14(70%) | 6(30% |
| 4. Arriving at possible hypothesis | 5(25%) | 7(35%) | 8(40%) | 0(0%) |
| 5. Selecting and planning an appropriate research design | 0(0%) | 8(40%) | 5(25%) | 7(35%) |
| 6. Constructing an instrument for data collection (questionnaire) | (0%) | 9(45%) | 5(25%) | 6(30%) |
| 7. Data Analysis and discussion | 3(15%) | 3(15%) | 8(40%) | 6(30%) |
| 8. Writing up the research project | (0%) | 8(40%) | 10(50%) | 2(10%) |

In table 64, students' answers to statements 1, 2, and 4, which are about finding a research problem, determining objectives, and identifying hypotheses, indicate that they are easy for them and they faced no difficulties in doing them. The percentages of their answers are 95%, 100%, and 60% successively. However, reviewing the literature was agreed among all students that it is either difficult or very difficult for students (70% and 30%). The selection of an appropriate design was regarded by 60% of the students as a difficult task, but 40% of them found it easy (but not very easy). For the construction of a questionnaire as a data gathering tool, 45% of the respondents thought that it was an easy task, but 55% of the respondents believed that it was a difficult task. For the step of data analysis and discussion, 70% of the students said that it was difficult, but 30% saw that it was easy for them. The last step of research which is, in this case,

about writing the different sections of the research report, was difficult for 60% of the respondents and easy for 40% of them.

*Item 14. The Steps of Research that Students thought require More Interactive Tutoring.* When asked about the steps of research that students felt unskilful, most of them reported the ones that were rated as either difficult or very difficult in the previous item. Hence, reviewing the literature, planning the study design, designing questionnaires, analyzing and discussing data, and writing up the research report require more than one tutorial for each. Accordingly, to make these steps easier for students, it is significant to raise the number of tutoring sessions for especially these steps.

*Items 15 and 16. Collaboration in the Choice of Research Problems with Peers and the Tutor.* According to the answers of students on this item, it is clear that they were very collaborative in choosing the research problems of their research projects. It was observed during the second tutorial that interactivity of students increased compared to the first tutorial, and group was extremely concerned by finding good research problems for their projects. The tutor was viewed to play significant role in directing and help guiding the choices of each group by discussing their choices individually. Hence, students were thankful to discussions with their peers and with their tutor in arriving at researchable problems.

*Item 17. Other People's Help in Finding the Research Problem.* Most of the students were very satisfied by the activities that had in the second tutorial. I addition, they claimed that in this tutorial they learnt so much to be able to find good research topics. They were also thankful for the tutor's answers to their emails concerning the choice of their research problems. So, they found it not important to ask other people about this issue.

*Item 18. The Organization of Tutorials According to the Research Steps and Its Role in Facilitating the Realization of Students' Projects.*

Table 65

*Students' Views on the Relationship between the Tutorials' Organisation and Their Projects Realizations*

| Option | Yes | No |
|---|---|---|
| | 20(100%) | 0(0%) |

This last item in this section asked students whether presenting tutorials in the order of the steps of their research projects facilitated the realization of their own projects. All respondents agreed that this way of presentation played a significant role in making the process of research easy for them to follow.

**Section Four: The Tutor and the Classroom Management.**

**Item 19. Rating Statements Related to Classroom Management on 4-point Scale.**

Table 66

*Rating Statements Related to Classroom Management on 4-point Scale*

| Statement | Highly favourable | Favourable | slightly unfavourable | Unfavourable |
|---|---|---|---|---|
| **1**.The teacher summarized the main points of the tutorial effectively. | 14(70%) | 6(30%) | | |
| **2.** The teacher presented the tutorials well. | 7(35%) | 13(65%) | | |
| **3.** The teacher was a source of motivation. | 9(45%) | 11(55%) | | |
| **4.** The teacher managed class discussions. | 8(40%) | 12(60%) | | |
| **5.** The sitting was comfortable to work in groups. | 6(30%) | 11(55%) | 3(15%) | |
| **6.** Class time was adequately divided among groups. | 5(25%) | 10(50%) | 5(25%) | |
| **7.** All groups were handed | 20(100%) | | | |

tutorials worksheets.

All the 7 statements presented in table 66 were designed with the purpose to know students' opinions about the quality of the interactive tutorials in general. Statements 1, 2, 3, and 4 are related to the presentation of the tutorials and they address the tutor. It is observed from this table that students favoured the way the tutor summarised the main points of each tutorial (70% highly favoured), the way she presented the tutorials (65% favoured), her motivating character (55 % favoured), and management of class discussions (60% favoured). Statement 5 is about the adequacy of sitting to group work, and students favoured this (55%). It is worth mentioning that each group of students sit down in round tables, but they were a bit far from each other to respect the health protocol. That is why 15% of the respondents slightly unfavoured how they were seated. As far as the division of class time among groups, students' responses to stamen 6 indicate that they are satisfied about the time devoted to them (75% favoured), but  25% of the students slightly unfavoured time division because they might want more time.  The lat statement was about tutorial sheets, and the fact that the tutor provided the groups with sheets was highly favoured by all students (20%).

*Item 20. Students' Suggestion about the Teaching of RM.* This last open-ended question in this questionnaire aims to give students space to express their opinions about the best practices in the teaching and learning of research methodology. Students' suggestions focused mainly on: 1) increasing class time, 2) adding more tutorials and more activities, 3) emphasising group work against long lectures 4) using examples of research studies in field of EFL. We do agree with the students that eight tutorials were not enough to present all the steps of research thoroughly but fortunately they will tackle them again in their two years of the master degree. Students will have more practice by writing research proposals and research projects.

**6.3.3 Discussion of the Results Obtained after the Intervention**

At the end of the experiment, it was necessary to assess the experience of students with the eight interactive tutorials. From both the analysis of the group evaluation forms and post-experiment questionnaire, filled and answered by participant of the EG, important interpretations can be made.

First, as far as the content presented in the eight tutorials, participants were satisfied with the amount of knowledge and skills of research methodology they have acquired. The content of the syllabus was well covered by online lectures and practical activities, during the tutoring sessions, which were interactively done by the participants. It is true that some tutorials were difficult in terms of their cognitive complexity than others; however, it was reported that students' knowledge was challenged and it was upgraded. The technique of collaborative summary of the lectures helped the students retain more knowledge, and it helped them do the activities of the tutorials easily.

Second, in terms of the overall organization of the tutorials, students were satisfied with the way each tutorial was presented. Time was adequately divided on the activities of a tutorial, group discussions, and class discussion. The tutor interacted with all groups in different ways: engaging in instructive dialogues on the content of the activities, giving advice on the well functioning of group work, and giving feedback on their answers. Doing all these activities with all groups, it was hard to equally divide time among all of them, but the most important thing was to make sure that all the groups were working on the activities and enough discussions took place among them. Time of each tutorial was saved thanks to the worksheets prepared and submitted beforehand to students.

Third, the positive environment in which students practiced their tutorials were reflected in the amount of liveliness in each tutoring meeting. The favourable class evaluations presented in the both evaluation forms and questionnaires reflect how much students enjoyed this way of teaching and learning this particular subject. Indeed, students stated that working in groups is a highly effective strategy. Students' motivation to learn about research methodology increased and they highly praised working in groups. In fact, the barriers that lecturing make between the teacher and the students were eliminated by using interactive tutorials and this closeness of the relationship between the teacher and the students made them feel comfortable learning this subject. This was reflected in students' great enthusiasm to conduct research projects and their accountability in making each step of the journey well made. Actually, focusing in each tutorial on one step of research helped students work on their own projects smoothly, and tutor's guidance through other means like emails and Google classroom, assured students that they could produce research pieces.

Nonetheless, developing students' knowledge and skills about research methodology is continuous and it cannot be said that students fully acquired them during just eight tutorials. Students rated especially doing the literature review, find a study design and writing the report and disseminating findings as difficult tasks. We do agree with students that it is hard to practice how to do for example a literature review in one tutoring session. This step requires a series of tutorials focusing on the different stages of this complicated step in research. So, as students suggested, each step of research should be practiced in more than one tutorial to guarantee better development of students' KRM and RS.

 **Conclusion**

To sum up this chapter, it is worth restating the main axes discussed. The primary concern of this chapter was to thoroughly present both quantitative, along with statistical, and qualitative types of analyses of the data gathered from all data gathering tools used for the design of the present study. So, a chronological order was chosen to present the different analyses necessary for finding answers to the questions probed by this study. In other words, this chapter started by first analysing data gathered from tools used before the intervention and which were gained from both teachers and students (including teachers' questionnaires, coordination sessions, students' questionnaires, and FGD with students). The second type of data that were analysed were gathered from an experiment, and it was concerned with the scores of the students of both groups (EG and CG) in the first pre-test, research proposal, first post-test, the second pre-test, research project, and a second post-test. Following this section is the third and last section in this chapter in which we analysed the third set of data and which were gathered from: 1) group evaluation forms filled by the sub-groups of the experimental group, and 2) post-experiment questionnaire gathered from individual students who participated in the experiment. The interpretation and discussion of the findings followed each phase of the data gathering tool (before, during, and after the intervention). Reflecting on the findings of this chapter, we will present our recommendations, implications, and suggestions for further research in the next chapter.

*Chapter Seven: Pedagogical Implications, Recommendations, And*

*General Conclusion*

# Chapter Seven: Pedagogical Implications, Recommendations, and Suggestions for Further Research

**Introduction**

Investigating the issue of research methodology teaching to undergraduate students was the focus of the present thesis. It tried to quantitatively and qualitatively answer a set of research questions that evolve around the pedagogy of this problematic subject matter for particularly this category of students. The above chapter presented thorough analysis and interpretation of the main findings of an empirical study design assessing the effectiveness of adopting interactive tutorials in promoting students' performance in a research methodology course.  In this final chapter, a summary of the main findings will be first presented; then, pedagogical implications and recommendation of the study will be accounted for; and suggestions of research subjects related to the research methodology pedagogy will be also proposed. This chapter ends with a general conclusion of the whole study in which we will highlight the importance of investigating the pedagogy of research methodology at the undergraduate level and the major theoretical and practical contributions of implementing interactive tutorials made to teaching in general and to this subject in particular.

**7.1 Summary of the Study Findings**

From the discussions which were presented at the end of each phase of the study (in total three), it is worth summarising the most significant findings. This summary helps understand the answers that the empirical part of this study found for the research questions which were asked at the beginning of this research. It will also evaluate the extent to which the objectives of the study were fulfilled.

The first concern of this study was to critically investigate the status of undergraduate research methodology teaching at the department of English language and literature, Batna 2 University. The informal meetings with the teachers in charge of the research methodology course along with individual interviews (for the research paper), the coordination meeting, and the questionnaires helped to better understand especially the teaching  practices prevailed in this context. Analysis of the participants' responses revealed significant points. First, teachers' believed that at the early level of methodology teaching, students need more input than producing any output.  Hence, it was clear that students had little practice in this course. That is, the teaching of this course was mainly teacher based and teachers relied mainly on lecturing. In addition, teachers thought that the timing of the course is not enough (one hour and half) to lecture and have practice at the same time. However, we believe that online teaching helped in solving this problem in a way that class time should be devoted only to practice. In spite of the fact that there was an agreement among teachers of the importance of group work as far as this course is concerned, not all of them used this teaching strategy in their classes. Thus, it was found that interactivity in research methodology classes was missing, so student relied only on taking notes in the understanding of this course. Students' engagement in this course depended only on some class discussions based on answering few students' questions. Therefore, it is quite difficult in this teaching environment that each student received feedback from the teacher or from the peers. Accordingly, teachers were not continuously evaluating students' progress as far as their research methodology and research skills are concerned.

From what was said about teachers' experiences as far as research methodology teaching at this department, most of the responses of the students to the questionnaire and in FGD were justified. Indeed, the teaching of research methodology to undergraduate students was found to

be both interesting and difficult, and its learning was challenging and anxious. Relying on mainly lecturing did not help students so much in developing their knowledge and skills about research. Students agreed that lecturing without practical activities made the process of learning hard and unsuccessful. According to the positive results of the experiment, teaching students' through interactive tutorials was, however, found effective in developing students' KRM and RS. In addition, this method of teaching this course proved to change students' attitudes toward the course in particular and research in general. Students became eager to follow the systematic way of doing research projects and their expertise in research methodology was noticeably promoted. Thus, adopting ITM in teaching research methodology was proved to maximise students' knowledge gain and develop their skills.

Moreover, working in groups facilitated the task of knowledge co-construction and permitted implementation of student-based- learning. In tutorials, students' dialogues with each other and with the tutor facilitated the task of learning about research methodology and doing research. Doing practical activities together, students developed the sense of accountability for their learning and the learning of their peers. Indeed, it was through interactive and instructive dialogues that students developed deep levels and significant type of learning. Compared to their counterparts in the control group, the performance of the experimental group students in writing both research proposals (first part of the experiment) and writing research projects (in the second part of the experiment) was significantly better. The first factor that led to these positive results was the amount of practice EG students had about each step of research. Indeed, in each tutoring session students were exposed to tasks which evaluated the knowledge they acquired from online lectures and which they collaboratively summarised with their peers. In each tutorial, we tried to help students visualise the research process through exercises which were both interesting and

encouraging.The second factor was the amount of interactivity with their peers and with the tutor. Students were encouraged to communicate their ideas, share their understanding, and help in co-constructing knowledge and building research skills. With the different interactive strategies used in each tutorial, it was observed that during each tutorial groups of students became a real community of practice as far as research methodology subject is concerned. Therefore, tutoring in small groups proved successful in promoting students' knowledge, skills and attitudes about research methodology.

The experience of learning and teaching through interactive tutorials was challenging for both students and the tutor. Part of the difficulty of this experience was about the negative influence of the long exposure to the lecturing method. Students were used to just receiving knowledge and playing no role in their learning process. In addition, this spoon-feeding method made them feel the least efforts they made as a big challenge and time consumer. Thus, at the beginning of the experiment it was very important for the tutor to raise students' awareness toward the blessing benefits of getting engaged with the learning process. Approximately at the start of each tutorial, we reminded the students of the importance of interacting with each other in doing lectures' summaries and doing tutorials' activities in developing not only their research methodology knowledge and skills, but also their general learning styles and strategies in order to raise the quality of their academic performance.

It is also true that teaching online and preparing interactive classroom tutorials was challenging for the tutor because it was time consuming. The tutor had to design all the materials by herself, and she had to tutor the whole sub- groups at the same time. Though the experience was tiring, it was worthy of a try as the results were positive and promising for both the students and the tutor herself. Feedback on students' activities was highly demanded from the part of the

students and each group in a tutoring session (three or four groups of three students each) required more attention from the tutor. Students were in extensive competition to ask for help from the part of the tutor, to show their solutions of the activities, and to participate in class discussions. Actually, at the end of each tutoring meeting, some students did not feel about the time devoted to them to answer their worries and questions, and it was very important to consolidate them through Google classroom platform, emails, and office meetings.

All in all, it is important to mention that the implementation of the interactive tutorials was an innovative method to the teaching of research methodology, at least at this department, and most importantly it was an interesting experience for the students. Indeed, this method created a positive learning environment in which students were challenged by the teaching tasks, but at the same time they were interested by their contents. Student believed that they made meaningful contributions in each tutorial. In fact, this study proved that students did not show any resistance to active learning and they wanted the traditional method of lecturing to be replaced by active and interactive learning for even the other subjects. Thus it is safe to conclude that both tutorial meetings and project work are more likely to meet RM course objectives than lecturing. Therefore, the results of this study accept the hypothesis that adopting interactive tutorials in the teaching of research methodology critically promotes students' basic research methodology knowledge, basic research skills, and positive attitudes toward research.

## 7.2 Pedagogical Implications and Recommendations of the study

On the basis of the major findings of this action research study, enhancing the RM teaching and learning at the undergraduate level is critically significant. The experiences of the investigated teachers and experimenting with teaching RM through interactive tutorials support the following pedagogical implications and recommendations.

The issue investigated in this study adds to the body of knowledge of how research methodology is taught and learnt. The lecture based-teaching method dominant at the department of English language and literature, Batna 2 University, especially in RMC was found to badly influence students' knowledge retention and skills development. This method of teaching this particular course proved less effective and it fostered students' negative attitudes toward conducting research. And so, teachers who purely rely on lecturing in a RMC negatively influence their students' motivation, interest, and performance. Actually, it seems that teachers teach this course in the same way they were taught. Indeed, it was rejected to alienate students from their learning process, and the students-based approach was more favoured because of the cognitive, affective and psychomotor advantages it has. Thus, involving students in their learning of research methodology by engaging them in constructing their knowledge and building their skills proved, mainly in this study, to promote students' performance and to develop positive attitudes toward conducting research. An implication of this is the possibility of adopting a student-based teaching approach with third year students who themselves required to be involved in their learning process.

With the absence of a common syllabus of RMC, no guidance on especially the content and teaching method was provided. Teachers were left to their professional knowledge and skills to build their syllabi and try to find the best suitable approaches and strategies to teach this course. In spite of the fact that at this department and in several meetings with RM teachers, it was tried to unify the syllabus, it seems that teachers did not agree on the same syllabus to teach. According to Healey's model (2005) (presented in the forth section of the literature review), teachers developed more research-led syllabi in which emphasis was much put on teaching subject content. In this type of syllabus students are considered as an audience and they are not

supposed to undertake any inquiry- based learning. However, results of the experiment in which a combination of the research- tutored and research-based techniques were used insures that undergraduate students should take the role of participant in constructing their knowledge about research methodology and in undertaking their own inquiries and building research skills. Accordingly, it is recommended that teachers involve students in both their KRM construction and RS building through consuming and producing real research projects.

In this study, the syllabus was implemented through interactive tutorials. The size of the class was controlled and students were divided in small groups. Hence, in each tutoring session the researcher worked with only nine to twelve students per class. It was found that students were interactive during the intervention and results of their achievement in both post-tests and writing research proposals and research projects proved the positive effect of this teaching approach. Working with this class structure allowed for managing group discussions and class discussions and all students benefited from instructional feedback on the different activities they did in each tutorial. Students' questions were most of the time a good source of class discussions and students profited from a step-by-step guidance throughout their research journey. Tutoring with small groups of students better achieve the practical objectives of the course and it is recommended that students work in groups of less than five students. One possible implication is that abstract courses like RMC might be taught through teaching methods in which the size of a group of students is small. In addition, teachers also may consider using tutorials to raise students' knowledge of the subject matter and to develop their academic skills.

The main hindrance of better application of interactive teaching model experimented in this study was time. Students very often complained that class time was not enough to do all tutorials' activities. The time allotted to this course per group is one hour and half per week. In

fact, deep learning of research knowledge and skills requires much time. Hence, it is suggested to increase class time to at least two meetings per week for three hours time.

Another implication of this study is to hire postgraduate students to collaborate with RM teachers during tutoring sessions. Some groups during the experiment were not satisfied with the division of time the tutor made on her groups and the suggested if other tutors could help in monitoring their activities. Accordingly postgraduate students can be invited to help undergraduate students especially that it is assumed that their KRM and RS are more developed compared to their counterparts.

In addition, the lack of awareness of the importance of acquiring KRM and RS from especially a RMC, at the undergraduate level, did not support how students learn this course. This provides some explanation as to the students' total ignorance of what research projects their teachers conducted, the research journals in which they published, and the scientific events that took place in this department. In a way or in another, students viewed this critical subject as a source of scores to pass to the next year. When EG students were introduced to some of their teachers' research works and attended an online webinar in which their teacher of RM, the researcher of this study, presented her research project, students felt that it is really worthy of studying the RMC. Therefore, it is recommended that not only teachers of RM talk about their journeys of research, but we invite all teachers at the department to gradually transfuse implicitly and explicitly into their students their research ideas and thoughts. Moreover, teachers are invited to help students read their research studies and studies published by their colleagues in order to familiarise students by their future supervisors' areas of research; and they need to inform them about the scientific events (conferences, webinars, study days, or oven thesis defence sessions) that will take place at least in this department. There is, therefore, a definite need for raising

awareness on the importance of acquiring not only conceptual knowledge but also procedural knowledge of research methodology from the part of our students. In this regard, the teacher role is critical.

Moreover, introducing RMC at the undergraduate' level requires careful assistance from the part of teachers. Because of the difficulty of the course, students' motivation to learn this subject can be affected. The subject of RM was agreed to pose some hardship for the students especially at this stage of their studies (Evans, 2018). Thus, it is important for teachers to provide a positive environment in which the complexity of the subject is simplified, and in which theory is matched to practice. The positive experience students had with interactive tutorials was influenced by, first, the link students made between the knowledge they acquired and the activities they did; and second, by their interactive dialogues which generated self-explanations and co-constructions of knowledge. Because of the absence of students' engagement and interaction with the CG students, it was observed that their motivation was lower than that of the EG students. Hence, it is recommended for teachers to provide a learning environment in which students have enough practice and in which they collaborate with each other and with the teacher in order to develop understanding of research methodology abstract concepts and to have enough practice to enhance their research skills. Therefore, both teachers and students should cope with additional preparation time and efforts required for the successful operation of interactive tutoring.

At this department and other similar departments in the Algerian universities, RMC is confused with TTU course. This latter is taught to first and second year levels. The confusion lies in the fact that teachers in charge of this course teach research methodology content. However, the TTU syllabus can be found in ministry program and it is clear about what to teach in this

course. TTU is about how to study at the university and in some university it is called "study skills". Actually, this confusion led to repeatedly teach some content of RM throughout the three levels of the undergraduate program. Thus, it is quite urgent to stop teaching TTU in this way, and focus more on what it is intended for. Taking account of at least students' language proficiency level, students at their especially first year at the university are straitened by the sophisticated and technical concepts about research methodology presented to them. Intruding RMC at the third level is quite reasonable, but educators in the ministry of higher education should set clear boundaries between these two subjects by making the RMC syllabus intelligible.

With the importance attributed to RM in the EFL program, students' KRM, RS and ATR should be counted for at the different levels of their academic career. Although there is no administrative obligation to produce any research project from the part of undergraduate students, the evidence from this study suggests that RM teachers need to encourage students to voluntarily conduct research on topics of their interest. Collaboration among students was proved to make from students' first experience research projects competitive to master degree research projects, and their methodology knowledge and competences improved. However, at this level, much guidance is required to help students smoothly go through the different steps of research. It is true that one step is more difficult than the other one- as they were rated by the participants of this study in post-experiment questionnaire- teachers need to estimate how much guidance students in each step in order to help them become autonomous in conducting their research studies especially in the future. Means to scaffold students in conducting their research projects may be online or onsite through for example Google meet, Zoom, or in teachers' offices. Leaving undergraduate students to conduct research on their own for the first time would not help them develop their skills of research (proved by the results of the CG). Assistance from the part of RM

teachers and other teachers in the department is highly recommended to make from undergraduate research a successful experience for the students.

Experimenting with interactive tutorials in a RMC proved that innovation in the educational field are possible and yield positive results. Apart from the fact that the quasi-experimental method is essential to the design of this study, teachers are invited to experiment with different teaching methods and evaluate their effectiveness. Classroom research is a means to an end, and in this study the end was to promote students' performance in a research methodology course. Students' efforts increased in especially the time frame of the experiment, their reflections on this experience were critically positive. Indeed, conducting classroom research helps both teachers and students bring innovation and improvement to what is always considered routine activities. In addition, RM teachers are invited to seriously reflect on their own practice and try new ways to upgrade students' performance. Their reflections on their own practice should also involve their students communicating their needs, strengths and weaknesses with regards to participating in research activities.Thus, teachers of RMC in the EFL program in Algeria and abroad are invited to disseminate the innovative teaching methods they experiment with their students in order to contribute in building a common a culture of RMT (Garner et al., 2009).

Training on research methodology teaching is another important means which help teachers develop their professional expertise. There are always new teaching methods and strategies that are proved successful in other disciplines and which teachers need to be aware of. Updating one's teaching methods surely positively influence students' motivation, interest, and especially performance. Therefore, RM teachers are invited to attend conferences and workshops

which mainly discuss research methodology teaching issues in which teachers share their experiences in and sources for teaching this course.

**7.3 Limitation of the Study and Suggestions for Further Research**

The study reported in this thesis is not without areas of weaknesses. Hence, it is important to point to some directions for important future research.

In better health conditions, better results of interactive tutorials implementations could be yielded. Students would better work closely in groups to encourage more interactivity. Hence, the experiment would be repeated in normal conditions and future research may extend the timing of each tutorial to at least two hours instead of one hour per tutorial. Future studies can also increase the number of interactive the number of the tutoring sessions and evaluate students' performance in undergraduate RMC.

Moreover, because of COVID-19 health protocol, experimental students attended only one webinar, so their interaction with experts was very limited. Accordingly, in a future research, students may be exposed to different scientific events such as viva voce, study days and conferences and evaluate their influence on students' research methodology knowledge and skills development and attitudes toward conducting research.

Another limitation of this study is students' reluctance from being video recorded. So, we replaced this important research tool by just classroom observation. Video recording makes inferences about knowledge and skills development easy to trace. Therefore, future work may make use of this critical tool and analyse students' interactions during group discussions more systematically.

Moreover, in this study, students' research methodology knowledge, research skills, and attitudes toward research were measured by the researcher's own designed means. Though these means were evaluated for both reliability and validity, they still need to be evaluated for reliability and validity by more experts if these tools would be used in other replicated studies. Since in literature there are no validated measurement tools of research methodology, we do suggest from panels of experts in the field to create these tools to facilitate the task of researchers.

Since this study is an action type of research, experimenting with 58 students does not allow for generalising the findings. So, similar studies are encouraged to take place with other students to assure the effectiveness of applying ITM using tutorials in teaching research methodology to especially EFL undergraduates.

Future research can also trace students' KRM and RK development through longitudinal studies. Assessing students' knowledge and skills development over a course of two semesters was deemed insufficient. However, this study can set a background to the future studies which will focus on how and with which pace EFL students' knowledge and skills of research methodology develop.

In the area of classroom interaction, researchers can also investigate which methods are more effective than others. For example they can carry a study in which they compare class interactions and group interaction, or they can compare online interactions and in class interactions among students and the teacher.

## General Conclusion

The action research study reported in this thesis was conducted with the purpose to promote the teaching and learning of research methodology subject to undergraduate third year students at the department of English language and literature, Batna 2 university. In spite of the fact that this subject is significant in the academic life of the students, research on its pedagogy is scant. Research methodology is a subject that is integrated in the curricula of all disciplines in the Algerian Universities. The major aim from making this subject a requirement is that research is a critical activity in the territory education and learning about how to conduct one requires both knowledge and skills of its methodology. However, it was reported in literature that both teachers and students faced difficulties in teaching and learning about this subject. The subject was found technical, abstract, theoretical, and most of all not related to their academic life. By studying this course students failed to make any links between theory and practice especially at the undergraduate level. This indicates that students have negative attitudes toward such a subject which has critical significance in students' academic life. Therefore, it is of a paramount importance to raise the quality of teaching and learning this absolutely indispensible course by adopting teaching and learning methods that can help students overcome difficulties they experience in acquiring both knowledge and skills of RM.

This research study was carried out at the department of English language and literature, Batna 2 University, in which research methodology subject is taught at the three levels: bachelor, master, and PhD. The focus of this study was to investigate RM teaching and learning at the undergraduate level.  At this level, research methodology is taught only to third year students, so it is not what some students and teachers think that it is TTU in first and second years. The name of the course in the third year program is Research Techniques and it is the only course that is

designed to teach RM related topics at this level. Indeed, it is urgent that these two subjects' contents and objectives are to be made clear to both teachers and students because every year we receive different types of students: students who have been taught RM at their first year and not in their second year, students who were taught RM in their first and second year with the same content, and students who have never been taught this subject in their first and second year. This situation may also make the students become disinterested and unmotivated to learn the RT course at their third year level.

Moreover, our teaching experience of the RT subject, supervising master dissertations, and informal discussions with teachers from this department and other departments in the Algerian universities, we observed that students' knowledge of research methodology and their research skills are deficient. Knowledge and skills of identifying research problems, doing a literature review, determining a study design, designing data gathering tools, analysing and discussing data, and writing up the research proposal and research topic seem very difficult steps in the research process. In fact, learning about these steps requires both conceptual and procedural knowledge; that is, it requires better ways to construct and retain knowledge and exposure to practical activities. Teaching through lecturing about RM proved unsuccessful because students learn better when they participate in their leaning process and when they have enough practice. Therefore, in this study, it is hypothesised that teaching RM to undergraduate students through interactive tutorials would develop their knowledge, skills, and skills about RM.

The design of the study was a mixed methods one in which both quantitative and qualitative methods were opted for. To cross validate the findings of the study, triangulation of the data gathering tools was relied on. The quantitative data were gathered from teachers' and students' questionnaires, and from the quasi-experiment design, group evaluation forms, and

observation; and qualitative data were gathered mainly from a coordination meeting with RM teachers at this department, and a FGD with third year students from the same department. The study was organised into three stages: before the experiment, during the experiment, and after the experiment. The first phase was an exploratory one and the emphasis was on investigating the status of the RM pedagogy at the aforementioned department. Informal meetings with teachers and students during the course of our teaching and master dissertations supervisions revealed that both the teaching and learning of the RM subject is problematic. From a coordination meeting with teachers, teachers' questionnaires, students' questionnaires, and FGD with students, detailed analysis of these problems were clearly identified. Results of the data gathered from these research instruments helped in answering the first questions of this study "what experiences and attitudes research methodology teachers have in their teaching practice of this course in this department?" Inquiry in the status of the RM pedagogy at this department was very important at this stage of the study because its results would inform better decisions about promoting the teaching of this subject. The results of this stage can be summarised in the following points:

1. Teachers are interested to teach RM  and they are motivated to teach this subject

2. Teachers relied on themselves to design the subject syllabus and no official one was provided.

3. Teachers depended on RM books in designing their materials or assign students chapters reading which were particularly about RM content knowledge and no activities were provided.

4. Teachers adopted lecturing in their teaching of RM which most students did not appreciate and believed not helpful in bridging RM theory and practice.

5. Teachers provided little or no practice on the subject knowledge a matter that students believed did not simplify the complexity of the subject.

6. Teachers believed that the time allotted to this subject is only enough to information transmission and it is not evident to involve students in their learning process. So adopting student-focused approach is far from being possibly applied.

7. Assessment of this course was mainly summative and no sort of formative assessment was reported by the participants.

8. Project works were just end-products and teachers believed that the big number of students they teach at this level did not allow them to assist their students through the different stages of the research process.

9. Students' seemed ignorant about research methodology and they were introduced to some RM-related concepts only in their second year in the TTU course.

10. Students confirmed that they had no practice and they do not know even how to find a research problem let alone doing other steps of research.

11. Students' had no idea of what research projects teachers conducted and published at this department and they knew absolutely nothing about EFL research studies.

12. The culture of attending scientific events was not cultivated among students and students' research knowledge and skills were underdeveloped.

13. Students were, however, eager to learn about RM instead of the negative attitudes they had about it.

14. Students favoured much teaching methods that engage students and make them part of each session and which balance between theoretical and procedural knowledge.

15. Students suggested having much practice to simplify the technicality and complexity of the subject and they welcomed the idea of interactive tutorials.

In the second phase of the study, we carried a quasi experiment with 58 third year students of the academic year 2020/2021. This number represented 30 students in the experiment group and 28 in the control group. Though random sampling was impossible random assignment to either EG or CG was applied. Students of both groups were pretested twice because the experiment was divided into two phases. The first pre-test covered knowledge and skills about the first four units of the syllabus: research problem and variables, research objectives, research hypothesis (es), and literature review. Results of the t-test comparing the mean scores of both groups in this pre-test showed that both groups were equal in terms of the dependent variable and their performance in this RM test was under average. Over a course of four interactive tutorials, the EG students were taught these units in a more engaging manner. Students were divided in groups of three students and in a tutoring session three to four groups attended. Different interactive strategies were used to help students co-construct KRM and RS and at the same time were guided to write their own research proposals. At the end of this first phase of the experiment, students of both groups were asked to produce research projects; students in the EG worked with the same group members but students in the CG did this task individually. Results of the t-test comparing the mean scores of both groups revealed a significant difference favouring the EG. Results of the first post-test confirmed that EG students' level in RM was better than that of the CG. In the second phase of the experiment the same teaching methodology was adopted with the difference in the units of the syllabus. The units covered were: research design, data gathering tools, data analysis and discussion, and writing up the research report. Before the start of this phase the same groups took a pre-test covering these units. Statistical

analysis of the difference in the results of the two groups revealed that again the two groups were almost ignorant about the content of these units. After other four interactive tutoring sessions with only the EG and relying only on lecturing with CG, students of the EG and CG were asked to produce small research projects. The EG students, in groups, had enough practice on all steps of their own research projects, but CG students had no practice. Evaluation of the projects clearly demonstrated that EG students developed knowledge and skills of RM compared to EG students. Comparisons of the EG and CG students' scores in writing a research project and in the second post-test significantly demonstrated that the interactive tutorials had positive influence on students' research methodology knowledge, research skills, and attitudes toward research. During both phases of the experiment students interactivity was recorded according to an observation grid. Both statistical analysis of students' scores and quantitative analysis of the observation indicated that the hypothesis set for this study was confirmed, and it appears that in an environment in which students build close relationships with themselves and with the tutor RM course becomes interesting, motivating, less stressful, and most importantly rewarding in terms of KRM and RK construction.

After the experiment, it was critical to evaluate students' experience with the tutoring sessions they had in RM course. Two data gathering tools were used: a group evaluation form and a questionnaire. The aim from administering these two tools was to consider both group and individual opinions of the students. Generally speaking, students viewed positively their participation in this experiment and they were much satisfied with their contribution in the construction of their knowledge. Students were thankful for the efforts speared in each tutorial and for the guidance they received from the tutor especially about their research projects. Students' feedback on each tutorial can help us and material designers to reconsider the quality

and amount of activities students receive during each tutoring sessions. All in all, a general satisfaction was observed among all students of the EG. Nonetheless, we do agree with Baekgaard and Lystbeak (2016) who said:"…it is not realistic to expect students to acquire, in a single course, the theoretical and practical skills to enable them to consider and carry out different research methods" (p.43). Hence, students were expected to develop more KRM and RS in the master and PhD degrees.

The findings of all the stages of this study may be somewhat limited by the chosen design of the study, but they are to a big extent presenting real teaching context in which the researcher tried to change RM pedagogy by adopting an innovative teaching  method at least at this department. However, by no means, the results do not rule out the likelihood of the influence of other factors on students' research methodology knowledge and skills development. Research on the RM pedagogy is invited to continue and teachers' better practices need to be communicated to enrich pedagogy culture in the field of research methodology. Collaboration among teachers and experts to make from this common course worthy of studying requires serious decisions at the level of the syllabus, critical evaluations of teachers' teaching methods, and continuous assessment of students' performance.

All in all, the chapters of the present thesis tried to both theoretically and practically investigate an issue of concern to almost all students of all disciplines and the results of which can be adopted for similar difficult and abstract subjects. Undergraduate research in our universities is still a fertile research area and it is not yet given its due significance. By this research study, we come to the conclusion that it is through investing in undergraduate research that students can be involved in inquiry-based learning which is principally a higher education requirement. The Algerian university needs to invest in undergraduate research and produce as

Fung (2017) described citizens who are evidence- informed in their decision- making and practices.

# References

Abdellatif-Mami, N. (2013). Teaching English under the LMD reform: the Algerian Experience. *A world Academy of Science*, *Engeneering and Technology*, 76, 243-246.

Abun, D., Magallanes, T., Encarnacion,  M. J., & Foronda, S. L.  (2019). The Attitude of Graduate students toward Research and their Intention to Conduct Research in the Future. *International Journal of Modern Research in Engineering & Management*, 2(11), 74-87.

Adams, D. (2014). First person action. In D. Coghlan, & M. Brydon-Miller, *The SAGE Encyclopedia of Action Research* (pp. 349-353). UK: Sage Publications

Afolabi, M. O., Dionne, S., & Lewis, H. (2009) Are we there yet? A Review of Creativity Methodologies.      Retrieved      15/05/2019      from      http://www.cs.cornell.edu/Conferences/ASEE2006/ASEE%20Papers/Session%204/ASEE%20Final%20vs%203_Afolabi.pdf

Anderson, C. (2005). Enabling and shaping understanding through tutorials. In F. Marton, D. Hounsell, & N. Entwistle (Eds.), *The experience of learning* (3rd ed., pp. 187–197). Edinburgh: Centre for Teaching, Learning and Assessment.

Ary, D., Jacobs, L. C., & Sorensen, C. K. (2010). *Introduction to research in education* (8 ed.). USA: Wadsworth.

Atanasescu, C., & Dumitru, F. (2013). Interactive teaching-learning methods in the interdisciplinary approach of natural sciences from the mentor-teacher's perspective. *Current Trends in Natural Sciences*, 2(3), 11-20.

Azer, S. (2009). Interaction between students and tutor in problem-based learning: The significance of deep learning. *Journal of Medical Sciences*, 5, 240–249.

Azzi, M. (2012).The New Pedagogical Practices within the LMD System: Perceptions of EFL Faculty Members. International Conference on Education and Educational Psychology. Procedia, *Social and Behavioral Sciences*, 69, 1004 – 1013.

Baekgaard, L. & Lystbaek, C. T. (2016). From methods to design: teaching research methodology as a reflective practice, in Benson, V. & Filippaios (ed.), *Proceedings of the 15th European Conference on Research Methodology for Business and management studies*, 43-50.

Baiche, A. (2009). *Innovation and change in language education: a critical reflection on the teaching and learning of EFL in secondary education in Algeria*. Published PhD Thesis, University of Oran.

Ball, C. T. & Pelco, L. E. (2006). Teaching Research Methods to Undergraduate Psychology Students Using an Active Cooperative Learning Approach. *International Journal of Teaching and Learning in Higher Education, 17*(2), 147-154.

Bandler, R. & Grinder, J. (1981) Reframing: Neuro-Linguistic Programming and the Transformation of Meaning, Real People Press.

Baroffio, A., Nendaz, M. R., Perrier, A., Layat, C., Vermeulen, B. & Vu, N. V. (2006). Effect of teaching context and tutor workshop on tutorial skills, *Medical Teacher*, 28(4), 112-119, DOI: 10.1080/01421590600726961

Bass, Randy. (2012). Disrupting Ourselves: The Problem of Learning in Higher Education. *Educause Review*, 23-33.

Bell, R. (2014). The continuing search to find  a more effective and less intimidating way to teach research methods in higher education. *Innovations in Education and Teaching International*, 1-11.

Bellalem, F. (2014). Language teachers' beliefs about curriculum Innovation: Perspectives from Algeria. *International Journal of Research*, 1(7), 188-202.

Benettayeb-Ouahiani, A. (2016). Assessment in the EFL university classroom: between tradition and innovation. *Revue Des Etudes Humaines Et Sociales -B/ Littérature Et Philosophie*, 15, 3- 10.

Benouar, D. (2013). Algerian experience in education, research and practice. *6th International Forum on Engineering Education (IFEE 2012). Procedia - Social and Behavioral Sciences,* 102, 361 – 367.

Benrabah, M. (2007). *Language in education planning in Algeria: historical development and current issues*. *Language Policy*, 6, 225-252.

Benziane, A. (2004). Economic reforms in Algeria and their impact on higher education and student benefits. *The Journal of North African Studies*, 9 (2),102–114.

Biesenthal, C. (2014). Pragmatism . In D. Coghlan, & M. Brydon-Miller, *The SAGE encyclopedia of action research* (pp. 647-6). UK: SAGE Publications.

Biggs, J. (2003). Teaching for quality learning at university: What the student does (2nd ed.). Maidenhead: Open University Press.

Bonwell, C. C., & Eison, J. (1991). Active learning: Creating excitement in the classroom. Washington, DC: The George Washington University School of Education and Human Development.

Bordovskaia, N., Darinskaya, L., & Zhebrovskaia, O. (2016). Didactic tools' of selection in the use of active and interactive training methods, *Procedia - Social and Behavioral Sciences* 217, 26 – 33.

Boulet, G. (2015, October 17). *The difference between knowledge and skills: Knowing does not make you skilled*. https://elearningindustry.com/difference-between-knowledge-and-skills-knowing-not-make-skilled

Braguglia, K. H. and Jackson, K. A. (2012) Teaching research methodology using a project-based three course sequence critical reflections on practice, *American Journal of Business Education,* 5(3), 347-352

Braskamp, L. A., and Ory, J. C. 1994. *Assessing faculty work: enhancing individual and institutional performance.* San Francisco: Jossey-Bass.

Brew, A. (2006). Research and teaching: Beyond the divide. London: Palgrave Macmillan.

Brew, A. (2012). Teaching and research: new relationships and their implications for inquiry-based teaching and learning in higher education. *Higher Education Research & Development*, 31(1), 101-114.

Brew, A. (2013). Understanding the scope of undergraduate research: a framework for curricular and pedagogical decision-making. *High Educ*, 66, 603–618.

Brown, J. D., & Coombe, C. (2015). *The Cambridge to research in language teaching and learning* . UK: Cambridge university press.

Butcher, C., Davies, C. & Highton, M. (2006). *Designing learning from module outline to effective teaching*. Routledge, London and New York

Chi, M. T.H., Siler, S. A., Jeong, H., Yamauchi,T., and Hausmann, R. G. (2001). Learning from human tutoring. *Cognitive Science*, 25, 471–533

Ciric, N. (2016). Interactive teaching as innovation in quality of didactical methodical organization of academic teaching. *Metodicki obzori*, 11(1), 76-91.

Clawson, R., Hoffman, A. and McCann, J.A. (2001). If we only knew then what we Know now: a few reflections on teaching undergraduate quantitative methods courses, *The Political Methodologist*, 10(1), 4-5.

Cohen, L., Manion, L. & Morrison, K. (2000). *Research methods in education* (5th Ed.). London, Routledge Falmer.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8 Ed. ed.). New York: Routledge.

Colvin, J. W. (2007). Peer tutoring and social dynamics in higher education. *Mentoring & Tutoring: Partnership in Learning*, *15*(2), 165 181.

Cousin, G. (2009). *Researching learning in higher education: an introduction to   contemporary methods and approaches staff and educational development series*. New York: Taylor & Francis Routledge.

Cox, S. (2000). How to herd cats in Piccadilly. *Times Higher Education Supplement*, 14 April, 36-37.

Creswell, J. W., & Creswell, J. D. (2018). *Research design:qualitative, quantitative, and mixed methods approaches* (Fifth Edition ed.). UK: SAGE Publications.

Creswell, J. W., & Tashakkori, A. (2007). Differing perspectives on mixed methods research. *Journal of Mixed Methods Research , 1*, 303-308.

Cronbach, L.J. (1963).Course improvement through evaluation. *Teachers College Record, 64,* 672-83.

Damodharan, VS., Rengarajan, V. (2007) Innovative methods of teaching, Paper presented at Learning Technologies and Mathematics Middle East Conference, Sultan Qaboos University, Muscat, Available online at http://math.arizona.edu/~atpmena/conference/roceedings/Damodharan_Innovative_Meth ods.pdf

Daniel, B. K. (2018). Reimagining research methodology as data science. *Big Data and Cognitive Computing*, 2(4), 1-13.

Daniel, B., Kumar, V., & Omar, N. (2017). Postgraduate conception of research methodology. *International Journal of Research & Method in Education*, 1-17.

Derouag, M. (2020). The influence of higher education research methodology teachers' academic identity on EFL students' attitudes toward research. *Social and Human Sciences Review, Batna1 University , 21* (2), 963-982.

Dippold, D. (2015). *Classroom Interaction: The Internationalized Anglophone University*. Palgrave Macmillan, UK.

Dolmans, D.H., Gijselaers, W.H., Moust, J.H., De Grave, W.S., Wolfhagen, I.H. and Van Der Vleuten, C.P. (2002). Trends in research on the tutor in problem-based learning: conclusions and implications for educational practice and research, Medical Teacher, 24, 173–180.

Dornyei, Z. (2003). *Questionnaires in Second Language Research:Construction, Administration, and Processing.* London: Lawrence Erlbaum Associates.

Earley, M. A. (2014). A synthesis of the literature on research methods education, *Teaching in Higher education*, 19 (3), 242-253

Efron, S. E., & Ravid, R. (2013). *Action Research in Education: A Practical Guide.* New York: The Guilford Press.

Eltanskaya, E., Popova, O., Linkova, Y., Arzhanovskaya, A., & Kulichenko, Y. (2017). Types of Interactive Methods in Teaching English to Students of Economics. *Advances in Social Science, Education and Humanities Research (ASSEHR),* 97, 100-102

Entwistle, N. (2007). Research into student learning and university teaching. *The British Psychological Society*, BJEP Monograph Series II, 4, 1-18

Evans, C., Muijs, Da, & Tomlinson, M. (2015). Engaged student learning: High-impact strategies to enhance student achievement, University of Southampton. Retrieved on 23/11/2019 from https://www.advance-he.ac.uk/knowledge-hub/engaged-student-learning-high-impact-strategies-enhance-student-achievement

Evans, L. M. (2018). Student Self-Assessment in an Undergraduate Research Methods Class Implications for Learning and Teaching, *Family Science Review,* 22(3)

Falchikov, N., (2001). Learning Together: Peer Tutoring in Higher Education. London; New York: RoutledgeFalmer

Fallon, E., Walsh, S., and Prendergast, T. (2013). An Activity-based Approach to the Learning and Teaching of Research Methods: Measuring Student Engagement and Learning, *Irish Journal of Academic Practice*,2(1),

Ferreira, M. (2013). Tutorial teaching: A new paradigm for the development of competencies. ECPS journal,8, 205-219.

Fields, Z. (2015). Innovative Research Methodology. Chapter 4 in Market Research Methodologies: Multi-Method and Qualitative Approaches. 58-70

Fink, L. D. (2003). Creating Significant Learning Experiences. John Wiley & Sons.   United States of America

Fraenkel, J. R., & Wallen, N. E. (2009). *How to Design and Evaluate Research in Education* (7 ed.). New York: McGraw-Hill.

Fung, D. (2017). *A Connected Curriculum for Higher Education*, London, UCL Press,

Garner, M. Wagner, C. and Kawulich. B. (2009).*Teaching Research Methods in the Social Sciences.* London: Ashgate.

Ghosh S. (2007). Combination of didactic lectures and case-oriented problem-solving tutorials toward better learning: Perceptions of students from a conventional medical curriculum. *Adv Physiol Educ*, 31, 193-7.

Giorgdze , M. & Dgebuadze M. (2017). Interactive Teaching Methods: Challenges And Perspectives. *IJAEDU- International E-Journal of Advances in Education*, 3(9), 544-548.

Giorgdze, M. & Dgebuadze, M. (2017). Interactive teaching methods: challenges and perspectives. IJAEDU- International E-Journal of Advances in Education, *3*(9). Pp. 544-548.

Green, K., &Kvidhal, R. (1990). *Research methods courses and post-bachelor's education: Effects on teachers' use and opinions.* Paper presented at the Annual Meeting of the American Educational Research Association, Boston

Gunn, A. (2017). Critical debates in teaching research methods in the social sciences. *Teaching public Administration*, 1-19

Hagan, F. (2010). Research Methods in Criminal Justice and Criminology (8th ed.). Upper Saddle River, NJ: Prentice Hall.

Hardway, C. & Stroud, M. (2014). Using student choice to increase students' knowledge of research, methodology, improve their attitudes toward research, and promote acquisition of professional skills, *International Journal of Teaching and Learning in Higher Education*, 26(3), 381-392.

Hare, W. (1978). The Concept of Innovation in Education. *Educational Theory*, 28(1), 68-74.

Hathaway, D & Norton, P. (2018). *Understanding Problems of Practice: A Case Study in Design Research*. Retrieved from https://doi.org/10.1007/978-3-319-77559-3

Healey, M. (2005). Linking research and teaching: exploring disciplinary spaces and the role of inquiry-based learning. In Barnett, R. (2005) Reshaping the University: New Relationships between Research, Scholarship and Teaching. McGraw Hill / Open University Press, 67-78

Henning, J. E., Stone, J. M., & Kelly, J. L. (2009). *Using Action Research to Improve Instruction : an Interactive Guide for Teachers.* New York: Taylor & Francis Routledge.

Heron, T. E., & Harris, K. C. (2001). *The educational consultant: Helping professionals, parents, and students in inclusive settings* (4th ed.). Austin, TX: PRO-ED.

Herrmann, K.J. (2014). Learning from tutorials: a qualitative study of approaches to learning and perceptions of tutorial interaction. High Educ,  DOI 10.1007/s10734-014-9731-3 https://4cast.uiowa.edu/sites/4cast.uiowa.edu/files/DisruptingOurselves_Bass.pdf

Huntington, A. (2005). Interactive teaching and learning: Exploring and reflecting on practice. In P. Hartley, A. Woods, and M. Pill (Eds.), Enhancing teaching in higher education (pp. 26-36). New York: Routledge

Illeris, K. (2003). Towards a Contemporary and Comprehensive Theory of Learning. I*nternational Journal of Lifelong Education* 22(4),396–406.

Illeris, K. (2009). A Comprehensive Understanding of Human Learning." Pp. 7–20 in *Contemporary Theories of Learning: Learning Theorists in Their Own Words*, edited by K. Illeris. NY: Routledge.

Imafuku, R., Saiki, T., Kawakami, C., & Suzuki, Y. (2015). How do students' perceptions of research and approaches to learning change in undergraduate research? *International Journal of Medical Education*, 6, 47-55.

Ivankova, N., & Wingo, N. (2018). Applying Mixed Methods in Action Research:Methodological Potentials and Advantages. *American Behavioral Scientist , 00* (0), 1-20.

Jackson, S. L. (2009). *Research Methods and Statistics: A Critical Thinking Approach* (3 ed.). USA: Wadsworth.

Janda, K. (2001). Teaching Research Methods: The Best Job in the Department, *The Political Methodologist*, 10(1), 6-7.

Jorgenson, O. (2006). Why Curricular Change is Difficult – and Necessary. *Independent School*, (4) p. 3-10.

Kakupa, P. & Xue, H. (2019). Students' Attitudes towards Research: A Study of Graduate Education Students at a Chinese Normal University. Educational Process International Journal, Vol. 8, issue, 2, pp. 97-110.

Keenan, K. and Fountaine, D. (2012). Listening to our students: understanding how they learn research methods in geography, journal of geography, 111 (6), 224-235.

Keyser, M. (2000) Active learning and cooperative learning: understanding the difference and using both styles effectively, research strategies, 17 (1), 35-44.

Khusniddin, U. (2018) Interactive teaching methods at higher educational institutions, *Jurnal Pedagogik*, 5 (2), 240-244.

Kilburn, D., Nind, M. and Wiles R. (2014). Learning as researchers and teachers: the development of a Pedagogical Culture for social Science Research methods. British Journal of Educational Studies, 62:2, 191-207.

Kumpulainen, K. & Wray, D. (2002). *Classroom interaction and social learning: From theory to practice*. Routledge, London and New York.

Kutbiddinova, R. A., Eromasova, A. A., & Romanova, M. A. (2016). The use of interactive methods in the educational process of the higher education institution. International *Journal of Environmental & Science Education*, 11(14), 6557-6572.

Laali, Y. (2016). Redefining innovation in the Algerian higher education. Literature and languages review, 19, 1-13.

Lei, S. A. (2008). Factors changing attitudes of graduate school students toward an introductory research methodology course. Education, 128(4), 667–685.

Leming M. R. (1979). Research methods: the first class. *Teaching Sociology*, 6(2), 133-137.

Leone, J.E. & Maurer-Starks, S. (2007). Innovative teaching strategies in research methods for health professions, California Journal of Health Promotion, 5(3), 62-69.

Levy, P. and Petrulis, R. (February, 2012) How do first-year university students experience inquiry and research, and what are the implications for the practice of inquiry-based learning? Studies in   Higher Education, 37(1), 85-101

Lewthwaite, S. and Holmes, M. M. (2018). The Pedagogy of Social Science Research Methods Textbooks, Scoping study research report, Society for Research into Higher Education, University of Southampton. Retrieved on 02/04/2020 from https://eprints.soton.ac.uk/422903/1/Lewthwaite_Pedagogy_of_Social_Science_Research _Methods_Textbooks.pdf

Lewthwaite, S. and Nind, M. (December, 2016). Teaching research methods in the social sciences: Expert perspectives on pedagogy and practice, *British Journal of Educational Studies*, 64(4), 413-430.

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2006). *Methods in Educational Research: From Theory to Practice.* USA: Jossey-Bass.

Lombard, B.J.J. & Kloppers, M. (2015). Undergraduate student teachers' views and experiences of a compulsory course in research methods, *South African Journal of Education*, 35 (1), p.1-14

Lukashevich, V., Shegelman, I., Sukhanov, Y., Vasilev, A., and Galaktionov, O. (2015). Introduction of Interactive Teaching Methods into the Disciplines of Forest Specialities: a Case of Petrozavodsk State University. Worldwide trends in the development of education and academic research, 15 - 18 June 2015. Procedia - Social and Behavioral Sciences 214 ( 2015 ) 119 – 127

MacGregor, J. (1990). Collaborative Learning: Shared Inquiry as a Process of Reform. New *Directions for Teaching and Learning*, 42, 19-30.

Maciejowska, I. & Frankowicz, M. (2010) Academic teacher at the crossroads of innovation Highways. In Valenčič Zuljan, M. Editor and Vogrinc, J. Editor, (Eds.), *Facilitating effective student learning through teacher Research and innovation* (pp. 103-120) Slovenia: Faculty of Education.

Mannison, M., Patton, W & Lemon, G. (1994). Interactive teaching goes to uni: keeping students awake and learning alive. *Higher Education Research and Development,* 13(1), 35-48.

Markle, G. (2016). Factors influencing achievement in undergraduate social science research methods courses: a mixed methods analysis, *Teaching Sociology*, 1–11.

Mathur, M., Mathur, N., Chauhan, M. & Kumar, L. D. (2019). Early exposure of undergraduate students to research methodology, *Journal of Research in Medical Education & Ethics*, 9(2), 113, 118.


McIntosh, E.A., Thomas, L., Troxel, W.G., Wijngaard, O. and Grey, D. (2021). Editorial: Academic Advising and Tutoring for Student Success in Higher Education: *International Approaches. Front. Educ,* 6(63),1265. doi: 10.3389/feduc.2021.631265

Meeker, M. A., Jones, J. M., & Flanagan, N. A. (2008). Teaching undergraduate research from and evidence-based practice perspective, Journal of Nursing Education, 47(8), 376-379

Menekşe, M. (2012). Interactive-Constructive-Active-Passive: The Relative Effectiveness of Differentiated Activities on Students' Learning. Published Doctor of Philosophy dissertation. Arizona State University.

Merriam-Webster. (n.d.). Pedagogy. In **Merriam-Webster.com dictionary**. Retrieved April 1, 2020, from https://www.merriam-webster.com/dictionary/pedagogy

Mocinic, S. N. (2012). Active Teaching Strategies In Higher Education. *Metodicki obzori*, 15(7), 97- 105.

Morrell, P. D., & Carroll, J. B. (2010). *Conducting Educational Research: A Primer for Teachers and Administrators.* Oregon, USA: SENSE PUBLISHERS.

Mukhamedyarova, Z. & Cotter, M. (2005). Interactive methods of teaching as a condition for developing students' independent learning skills in Kazakhstan and the U.S. *International Education*, 34(2), 62-72.

Murray, R. & Brightman J. R. (1996). Interactive teaching. *European Journal of Engineering Education,* 21(3), 295-308.

Nebbou, A. (2017). Evaluation Means Innovation in ELT: The Experience of the Algerian School. Sino-US English Teaching, 15(10), 470-477.

Nind, M. and Lewthwaite, S. (2017) Hard to teach: inclusive pedagogy in social science research methods education. *International Journal of Inclusive Education*, 1-15.

Nind, M. and Lewthwaite, S. (2018). Methods that teach: developing pedagogical research methods, developing pedagogy, *International Journal of research & Method in Education*, 1-12.

Nind, M., Kilburn, D., and Luff, R. (2015). The teaching and learning of social research methods: developments in pedagogical knowledge, International Journal of social Research Methodology, 18 (5), 455-461.

Nurutdinovaa, A. R., Perchatkinaa, V. G., Zinatullinaa, L. M., Zubkovaa, G. I. & Galeevaa F. T. (2016). Innovative teaching practice: traditional and alternative methods

(challenges and implications), *International Journal 0f Environmental & Science Education,* 11(10), 3807-3819

OECD (2016), Innovating Education and Educating for Innovation: The Power of Digital Technologies and Skills, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264265097-en

Oxford University Press. (n.d.) . Pedagogy . *Oxford English dictionary*. Retrieved  February 18, 2022  https://www.oed.com/viewdictionaryentry/Entry/139520

Paltridge, B., & Phakiti, A. (2015). *Research Methods in Applied Linguistics : A Practical Resource.* New York: Bloomsbury.

Panaflorida, A.H. (1998). Non-Traditional forms of assessment and response to student writing: A step toward learner autonomy. This chapter originally appeared in W, Renandya and G.M. Jacob (eds). Learners and Language Learning, 72-88. Singapore: SEAMEO Regional Language Center. 1998. Reprinted by permission.

Paolini, A. (2015). Enhancing Teaching Effectiveness and Student Learning Outcomes. *The Journal of Effective Teaching,* 15(1), 20-33.

Papanastasiou, E. C. (2005). Factor structure of the "attitudes toward research scale", *Statistics Education Research Journal*, 4(1), 16-26.

Parks, M. R., Faw, M. & Goldsmith, D. (2011). Undergraduate instruction in empirical research methods in communication: assessment and recommendations, *Communication Education*, 60(4), 406-421.

Pedagogy. (2019, February 1). *New World Encyclopedia,* . Retrieved 01:40, April 2, 2020 from //www.newworldencyclopedia.org/p/index.php?title=Pedagogy&oldid=1017705.

Petruta, G. P. (2013). Teacher's opinion on the use of interactive methods/techniques in Lessons. *5th International Conference EDU-WORLD 2012 - Education Facing Contemporary World Issues. Procedia - Social and Behavioral Sciences* 76, 649 – 653.

Ponomariova, O. N. &  Vasina, O. N. (2016). Setting Up The Interactive Educational Process In Higher Education.   International Journal Of Environmental & Science Education, 11(15), 8617-8627.

Pratte, R. (1974). Innovation in education. Philosophy of Education 7974: Proceedings of the Thirtieth Annual Meeting of the Philosophy of Education Society, ed. Michael J. Parsons (Edwardsville. 111.: Philosophy of Education Society, 1974), pp. 363-74.

Prosser, M., & Trigwell, K. (1999). Understanding learning and teaching: The experience in higher education. Maidenhead: SRHE and Open University Press.

Rahali, A. S. and Bendiabdellah,  A. (2015). The Role of Algerian Universities in National Innovation System (NIS). International Journal of Information and Education Technology, 5(3), 215-219

Ramsden, P. (2003). *Learning to Teach in Higher Education.* Second Edition. London: Routledge- Falmer.

Regmi, K. (2012). A review of teaching methods- lecturing and facilitation in higher education (HE): a summary of the published evidence, The Journal of Effective Teaching, 12(3), 61-76.

Reichardt, C. S. (2019). *Quasi-Experimentation: A Guide to Design and Analysis.* New York: The Guilford Press.

Remler, D. K., & Ryzin, G. G. (2015). *Research methods in practice : strategies for description and causation* (2 ed.). USA: Sage.

Rezig, N. (2011).Teaching English in Algeria and Educational Reforms: An Overview on the Factors Entailing Students Failure in Learning Foreign Languages at University. Procedia - Social and Behavioral Sciences, 29, 1327 – 1333.

Rhoden, C & Dowling, N. (2006). Why tutors matter: realities of their role in transition', *in Proceedings of the 9th Pacific Rim First Year in Higher Education Conference,* Griffith

Richards, J.C. & Renandya, A.W. (2002). Methodology in Language Teaching: An Anthology of Current Practice. Cambridge University Press.

Riche, B. (2010). Teaching Study Skills and Research Skills in the LMD System: The Missing Link. Retrieved on 23/06/2017 from http://www.ummto.dz/IMG/pdf/Article_Riche.pdf

Rogers, E.M. (1983). Diffusion of Innovations, (3rd Ed.).New York. Free Press.

Ryan, M., Saunders, C., Rainsford, E. and Thompson, E. (2013). Improving research methods teaching and learning in politics and international relations: a reality show approach, *Political Studies Association*, 1-13.

Sander, S., Stevenson, K., King, M. and Coates, D. (2000). University students' expectations of teaching. Studies in Higher Education 25 (3), 309−323.

 Santhi, V. J., Edward, C. & Selvam, R. (2017) Interactive Teaching Method for Communication Enhancement, *Athens Journal of Philology , 4*(3) ,229-242.

Saroyan, A. & Amundsen, C. (2004). Rethinking teaching in higher education: from a course design workshop to a faculty development framework. Stylus Publishing, Virginia

Schmidt, H. G., & Moust, J. H. C. (2000). Processes that shape small-group tutorial learning: A review of research. In D. H. Evensen & C. E. Hmelo (Eds.), Problem-based learning: A

research perspective on learning interactions (pp. 19–52). Mahwah, NJ: Lawrence Erlbaum.

Schutt, R. K., Blalock, H. M. & Theodore C. W. (1984). Goals and Means for Research Methods Courses. *Teaching Sociology*, 11(3), 235-258.

Segrera, F. L. (2010). Trends and Innovations In Higher Education Reform: Worldwide, Latin America And In The Caribbean. Research & Occasional Paper Series: CSHE.12.10

Sengupta, A. (2019). Improving research in India: introducing undergraduate research in higher education, ORF Issue Brief, 277, 1-14.

Senthamarai, S. (2018). Interactive teaching strategies. *Journal of Applied and Advanced Research*, 3(1), 36-38.

Shaila, M.Y., & Trudell B. (2010). From Passive Learners to Critical Thinkers: Preparing EFL Students for University Success. *English Teaching Forum*, Number 3, 2-5.

 Shamsutdinova, E. K., Khakimzyanova, D. K.  & Melnikova, O. K. (2017). Implementing interactive methods in teaching general English for future programmers, *International Journal of Scientific Study*, 5(5), 362-366.

Shirani Bidabadi, N, Nasrisfahani, A., Rouhollahi, A. & khalili, R. (2016). Effective teaching methods in higher education: requirements and barriers. *Journal of Advances in Medical Education & Professionalism*, 4(4), 170-178.

Silen, C. (2006). The tutor's approach in base groups (PBL). Higher Education, 51, 373–385.

Singh, Y. K. (2006). *Fundamental of research methodology and statistics.* New Delhi: New Age International (P) Ltd., Publishers.

Stone, P. (2001). Making the World Safe for Methods. *The Political Methodologist*, 10(1), 9-10.

Taraban, R., & Logue, E. (2012). Academic factors that affect undergraduate research experiences, *Journal of Educational Psychology, 104,* 499-514.

Tashakkori, A. and Teddlie, C. (2003). Issues and dilemmas in teaching research methods courses in social and behavioural sciences: US perspective, INT. J. Social Research Methodology, 6 (1), 61-77.

Terrion, J. L. & Leonard, D. (2007). A taxonomy of the characteristics of student peer mentors in higher education: findings from a literature review. *Mentoring &Tutoring: Partnership in Learning*, 15, 2, pp. 149‑164.

Topping, K. J. (Oct., 1996). The Effectiveness of Peer Tutoring in Further and Higher Education: Typology and Review of the Literature. Higher Education, 32(3) pp. 321-345.

Topping, K.J. and Ehly, S.W. (2001) Peer Assisted Learning: A Framework for Consultation. Journal of Educational and Psychological Consultation, 12, 113-132.

Torbert, W. R. & Taylor, S. S. (2008). Action Inquiry: Interweaving Multiple Qualities of Attention for Timely Action**.** Retrieved from http://www.harthill.co.uk/assets/files/Articles/ActionInquiry_InterweavingMultipleQualit ies_ofAttention_Torbert_and_Taylor_2008.pdf

Trigwell, K., and M. Prosser. (1996). Changing Approaches to Teaching: A Relational Perspective. *Studies in Higher Education*, 21 (3), 275–284.

Trigwell, K., and M. Prosser. (2004). Development and use of the Approaches to Teaching Inventory. *Educational Psychology Review* 16 (4), 409–424.

Trimarco, K. (1997). *The Effects of a Graduate Learning Experience on Anxiety, Achievement, and Expectations in Research and Statistics*. Paper presented at the annual meeting of the Northeastern Education Research Association, Ellenville, NY.

UniSA. (2012). Enrolment Terminology, University of South Australia, accessed from http://w3.unisa.edu.au/enrolonline/terminology.asp

University, Australia.

Valenčič Zuljan, M. & Vogrinc, J. (2010). The factors of encouraging teacher innovation from the perspective of teachers and headmasters. In *Author* (Eds.), *Facilitating effective student learning through teacher research and innovation.* (pp. 455-469) Slovenia: Faculty of Education.

Vandiver, D.M. & Walsh, J.A. (2010). Assessing autonomous learning in research methods courses: implementing the student-driven research project, *Active learning in Higher Education*, 11(1), 31-42.

Wagner, C., Garner, M., and Kawulitch, B. (2011). The state of the art of teaching research methods in the social sciences: towards a pedagogical culture. *Studies in Higher Education*, 36(1).

Walsh, B. A. & Weiser, D. A. (2015).Teaching Undergraduate Research in Human Development and Family Studies: Piloting a Collaborative Method, *Family Science Review*, 20(1), 32-47.

Westbrook, J., Durrani, N., Brown. R., Orr, D.,  Pryor, J., Boddy, J. & Salvi, F (2013) Pedagogy, curriculum, teaching practices and teacher education in developing countries. Final Report. Education Rigorous Literature Review. EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Wickramasinghe, S. and   Upeksha,  G.N. (2016). Innovative and interactive teaching methods for  improving learning quality in higher education. 2nd International Conference on Education and Distance Learning – 1st July 2016, Colombo, Sri Lanka

Willison, J. & O'Regan, K. (2007). Commonly known, commonly not known, totally unknown: a framework for students becoming researchers, *Higher Education Research & Development,* 26(4), 393–409.

Willison, J. (2018).Research skill development spanning higher education: Critiques, curricula and connections, *Journal of University Teaching & Learning Practice*, 15(4), 1-14.

Wisecup, A. K. (2016). Take or leave it: students' attitudes about research methods, *Teaching Sociology*, 1-7.

Wisker, G. (2018). Frameworks and freedoms: Supervising research learning and the undergraduate dissertation, *Journal of University Teaching & Learning Practice*, 15(4), 1-14

Yakovleva, N. O., & Yakovlev, E. V. (2014). Interactive teaching methods in contemporary higher education. *Pacific Science Review*, 16, 75-80.

Yukhimenko, A. N., Mefodeva, M. A, Belyaeva, E. A., & Grigorieva, L. L. (2017). Interactive teaching Methods as Means of Stimulating Reserves of Students Interaction, *International Journal of scientific Study*, 5 (6), 58-62.

Zane, L. B., & Muilenburg, L. (2000). Design discussion questions for online adult learning *Educational Technology,* 40(5), 53−56

Zimbardi, K. and Myatt, P. (2014). Embedding undergraduate research experiences within the curriculum: a cross-disciplinary study of the key characteristics guiding implementation, *Studies in Higher Education*, 39(2), 233-250

*Appendices*

**Appendix A: Programme des enseignements de 3ème année Licence (L3)**
**Domaine: Lettres et Langues Etrangère**

**Semestre 5 :**

| Unité d'enseignement | | VHS 14-16 sem | V.H hebdomadaire | | | | Coeff | Crédits | Mode d'évaluation | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | C | TD | TP | Autres | | | Continu | Examen |
| **UEF1(O/P)** UE fondamentales | | | | | | | | | | |
| Matière 1 | Linguistique | 1h30 | 1h30 | / | 2H | 03 | 04 | 50% | 50% |
| Matière2 | Étude de textes littéraires | 1h30 | 1h30 | / | 2H | 03 | 04 | 50% | 50% |
| Matière 3 | Étude de textes de civilisation | 1h30 | 1h30 | / | 2H | 03 | 04 | 50% | 50% |
| **UEF2(O/P)** | | | | | | | | | | |
| Matière 1 | Compréhension & production écrite | / | 1h30 | / | 2H | 02 | 02 | 100% | |
| Matière2 | Compréhension & production orale | / | 1h30 | / | 2H | 02 | 02 | 100% | |
| **UEF2(O/P)** | | | | | | | | | | |
| Matière 3 | Traduction & interprétariat | / | 1h30 | / | 2H | 02 | 02 | 100% | |
| Matière 1 | Introduction à la didactique | / | 1h30 | / | 2H | 01 | 02 | 100% | |
| **UE méthodologie** | | | | | | | | | | |
| Matière2 | Introduction aux langues de spécialité | / | 1h30 | / | 2H | 01 | 02 | 100% | |
| **UEM1(O/P)** | | | | | | | | | | |
| Matière 1 | Techniques de recherche | / | 1h30 | / | 2H | 02 | 04 | 100% | |
| **UE découverte** **UED1(O/P)** | | | | | | | | | | |
| Matière 1 | Psychologie cognitive/sciences de la communication | 1h30 | / | / | 2H | 01 | 02 | 100% | |
| **UE transversales** **UET1(O/P)** | | | | | | | | | | |
| Matière 1 | Langue(s) nationale(s)/langue(s) étrangère(s) | 1h30 | / | / | 2H | 01 | 02 | 100% | |
| Total S5 | 6H/H (16 semaines) | 7h30 | 13h30 | | 22h | 21 | 30 | | |

## Appendix B: Teachers' Questionnaire on Research Methodology Teaching

Dear colleague,

You are kindly requested to answer the questions presented in this questionnaire which is about your experience in teaching research methodology at the department of English language and literature, Batna 2 University. It aims to investigate your teaching beliefs, practices, and attitudes as far as this course is concerned. Your answers are highly valuable for the results of our research project and they will be kept anonymous throughout the whole study. Your cooperation would be highly appreciated. The questionnaire would take you 15 to 20 minutes time.

**Part 1: Demographic Information**

**1. Gender:**       Male ☐        Female ☐

**2. Qualification:** Magister ☐        PhD ☐

**3. Field of research**: ………………………………………………….

**4**. Name of research laboratory you are a member in: ……………………………………

**5.** Number of years teaching research methodology: …………………………

**Part 2: Overall Research Methodology Teaching Experience**

**6.** Why have you chosen to teach research methodology to third year LMD students?

☐ It is an interesting subject to teach.
☐ It does not require so many efforts to teach.
☐ It helps you in your field of research.
☐ It is a left over subject that is not much chosen by other teachers.
☐ Others, please specify
…………………………………………………………………………………………………
………………………………………………………………………………………………….

**7**. To what extent teaching this course is difficult? Please tick one (√)

| Very difficult | Difficult | Medium | Easy | Very easy |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

**8**. How do you rate your students' achievement in this course? Please tick one (√)

| Excellent | Above average | Average | Below average | Very poor |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

**9.** To what extent are your students motivated to learn this subject? Please tick one (√)

| Highly motivated | Motivated | Moderately motivated | slightly motivated | Not motivated |
|---|---|---|---|---|

**10**. What do you think of the time allotted to this course (1h: 30)? Please tick one (√)

| Very sufficient | Sufficient | Moderate | Insufficient | Very insufficient |
|---|---|---|---|---|

**11.** Have you checked the Official Research Techniques Program (CANVAS)?  To what extent it meets your expectations?

……………………………………………………………………………………………………
……………………………………………………………………………………………………
…………………………………………………………………………………………………….

**12**. What major innovations have you made to upgrade the quality of your teaching of this course?

……………………………………………………………………………………………………
……………………………………………………………………………………………………
…………………………………………………………………………………………………….

**13.** What attitudes have you developed during your teaching experience toward research methodology teaching especially to this level of students?

……………………………………………………………………………………………………
……………………………………………………………………………………………………
…………………………………………………………………………………………………….

**Part 3: Teaching Methods and Strategies**

**14.** Which of the following methods do you employ in your teaching of the research? You may tick more than one.

☐ Lecturing
☐ Seminars
☐ Workshops
☐ Tutorials
☐ Others, please specify

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

**15.** Do you think it is effective in developing students' knowledge and research skills?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

**16.** Please rate the following elements in your class.

   Lecture presentation …%
   Class discussion …%
   Group discussion …%
   Peer discussion …%
   Individual assignments …%

**17.** What is more important for you:

   □ To cover curriculum content
   □ To assure learning
   □ Both

**18.** D you consider your teaching:

   □ Teacher-centred
   □ Student- centred
   □ A mixture of both

**19.** How often do you incorporate the following tasks in your teaching? Please tick one (√) for each statement.

| Statement | Very often (in all sessions | Often (in almost all sessions) | Sometimes (in a couple of sessions) | Rarely (in one or two sessions) | Never |
|---|---|---|---|---|---|
| 1. I explicitly state learning objectives. | | | | | |
| 2. Students work in groups to do tasks and solve problems. | | | | | |
| 3. Students evaluate | | | | | |

| | |
|---|---|
| and reflect upon their own work. | |
| 4. I check, by asking questions, whether or not the subject matter has been understood. | |
| 5. I review with the students the homework they have prepared. | |
| 6. I administer a test or a quiz to assess students learning. | |
| 7. Students work individually with worksheets to practice newly acquired knowledge. | |

**20.** How much it is important for you to keep your students active and interactive in your class**?** Please tick one (√)

| Very Important | Important | Moderately Important | Slightly Important | Not Important |
|---|---|---|---|---|
| | | | | |

**Part 4: Material Design and Development**

**21.** Is the syllabus you use self designed or predesigned by others?  Please justify your answer**:**

…………………………………………………………………………………………………………
…………………………………………………………………………………………………………
………………………………………………………………………………………………….

**22.** Do you consider your students' needs in adapting or adopting a certain syllabus? Please explain:

…………………………………………………………………………………………………………
…………………………………………………………………………………………………………
………………………………………………………………………………………………………….

**23**. What type of materials do you share with your students? You may tick more than one.

☐ Handouts
☐ PPTs
☐ Chapters from books
☐ Research papers
☐ Websites (and other electronic sources)

**24.** Apart from your official website, are there any other means of communication you use to share these materials with your students?

…………………………………………………………………………………………………………
…………………………………………………………………………………………………………

**25.** Do you assign students some academic type of reading? Please tick one (√)

☐ Yes, Always
☐ Yes, sometimes
☐ Yes, occasionally
☐ No, but I will
☐ No, I will not.

**26.** Have you had any training (formal or informal) on material design and development? Please explain.

…………………………………………………………………………………………………………
…………………………………………………………………………………………………………
…………………………………………………………………………………………………………

**27.** On the basis of what do you choose your research methodology textbooks to assign students chapter (s) to read or prepare your lessons. Mention at least three reasons.

1…………………………………………………………………………………………………
2………………………………………………………………………………………………….
3. …………………………………………………………………………………………………

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

**Part 5: Evaluation and Assessment**

**28.** How often do you provide your students with feedback on their assignments? Please tick one (√)

| Always | Often | Sometimes | Rarely | Never |
|--------|-------|-----------|--------|-------|
|        |       |           |        |       |

**29.** How do you deal with students' questions?
- ☐ You answer them immediately.
- ☐ You give chance to other students to answer them.
- ☐ You leave them to the end of the session.
- ☐ You consider them as homework to be discussed in the next session.
- ☐ You do not answer them.

**30.** What mode of evaluation do you adopt to assess students' achievement in this course?
- ☐ Continuous evaluation
- ☐ Term exams
- ☐ Research projects
- ☐ All of them
- ☐ None of them (if you tick this, please mention your own way)…………………

**31.** If you assign students research projects, do you do the following:
- ☐ You make students practice well the steps of the research process?
- ☐ You follow continuous evaluation of the steps of the research project?
- ☐ You do first draft reading of students' projects and give feedback?
- ☐ You ask students to present their projects?
- ☐ You give detailed reading reports to students?

**32.** Do you think assigning students research project help develop their research methodology knowledge and research skills? Please explain.
………………………………………………………………………………………………………
………………………………………………………………………………………………

**33**. What do you think of your students' research projects in terms of their methodology?

| Excellent | Very good | Good | Average | Below average | Poor |
|-----------|-----------|------|---------|---------------|------|
|           |           |      |         |               |      |

Please, say something about assigning students projects, is it a good teaching practice? …………………………………………………………………………………

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

……………………………………………………………………………………………………………
…………………………………………………………………………………………………………..

**34.** How much are you satisfied with your teaching and assessment efforts?

| Very satisfied | Satisfied | Neither | Dissatisfied | Very Dissatisfied |
| --- | --- | --- | --- | --- |
| | | | | |

**35.** Please write some suggestions for ameliorating the state of research methodology teaching and assessment in our department.

……………………………………………………………………………………………………………
……………………………………………………………………………………………………………
……………………………………………………………………………………………………………
……………………………………………………………………………………………………………
……………………………………………………………………………………………………………

**Thank you!**

## Appendix C: Students' Pre-Experiment Questionnaire

Dear student,

This questionnaire is designed to investigate your attitudes toward learning about research and your expectations from a Research Techniques Course. It also aims at finding about your favorite learning styles and the teaching methods that you think are effective in making your learning experience significant. The answers provided by you are going to be treated confidentially. Your cooperation would be highly appreciated.

**Personal Information**

**Gender:**       Male □       Female □

**Age:** □

**Section One: Students' Knowledge of and Attitudes toward Research and their Expectations from a Research Techniques Course**

*1.* **Circle one of the numbers opposite to each of the statements that follow**

| Statement | Strongly Disagree | Disagree | Undecided | Agree | Strongly Agree |
|---|---|---|---|---|---|
| 1. I enjoy research. | | | | | |
| 2. I can view myself as a researcher. | | | | | |
| 3. Research is very valuable. | | | | | |
| 4. Research can be a motivating factor to my university experience. | | | | | |
| 5. Research is supportive to my learning. | | | | | |
| 6. The most effective teaching is when the teachers give us research tasks | | | | | |

7. Research makes me anxious

---

8. I find it difficult to understand the

concepts of research

---

9 Research is complicated subject

---

10. Research methodology course  does

not apply to my personal life

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2. Do you know research interests of your teachers? Yes ☐          No ☐

If yes, give some examples……………………………………………………………

3. Can you name some journals where your teachers publish their research projects?

………………………………………………………………………………………………

………………………………………………………………………………………

4. What research topics are investigated in your department?

………………………………………………………………………………………………

………………………………………………………………………………………

5. Have you ever attended a viva voce in you EFL studies? Yes ☐       No ☐  How many times?

6. How many times do you go to your department library? Have you done any kind of library search?

7. Are you asked to conduct any research?

Yes ☐            No ☐

If yes, does the teacher help you in your project?    Yes ☐            No ☐

8. How   does   the   teacher   help   you?   Classroom   Workshops   ☐       Email☐ Informal meetings ☐        None of this ☐      you may give another suggestion

**9.** Is the task of conducting research difficult? Yes ☐             No ☐

If yes, what makes it difficult?

……………………………………………………………………………………………………

……………………………………………………………………………………….

**10.** Describe your experience in doing a research project?

...............................................................................................................................................

...............................................................................................................................................

**11.** Have you formally or informally searched about what the Research Techniques course is

about? Yes ☐             No ☐

**12.** From who or where have you got the information?.............................................................

**13.** How much do you know about the subject?

- Not really much

- I have some idea

- I have a clear idea about the course but my knowledge is theoretical

- I can explain and practice the content of the course

**14.** What are your learning goals from the Research Techniques course?

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…………………………………………………………………………………………………….

**15.** What skills you think you will develop from this course?

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……………………………………………………………………………………………………

**16.** How do you want the course to be presented? You may tick more than one answer.

- Lecturing

- Group discussion

- Individual presentation

- Workshops

- Assignments

**17.** Do you think that studying research techniques at this level is fundamental or optional? Why?........................................................................................................................................
.........................................................................................................................................

*Section Two: Interactive Teaching Methods*

**18.** During your university learning experience have you ever experienced learning in pairs or in groups? Yes ☐ No ☐ Did you like these experiences Yes ☐ No ☐

**19.** Were they useful in developing your knowledge and skills?

Explain:……………………………………………………………………………………………
…………………………………………………………………………………

**20.** Do you still want to repeat this experience in this subject? Yes ☐ No ☐

If No, why?.........................................................................................................................

**21.** What do you think the role of the teacher should be in a student-group teaching?……………………………………………………………………………………

**22.** If you are going to be taught in workshops, do you prefer to be assigned the tasks before the class time or during the class time?

……………………………………………………………………………………………
……………………………………………………………………………………………

**23.** Is it important that the teacher explains the instructions of the tasks to the whole class or gives the task to the group managers then the teacher explains again to only groups who do not understand?

…………………………………………………………………………………………………………
…………………………………………………………………………………………………

**24.** How do you want to be assessed if you have been taught in groups?

…………………………………………………………………………………………………………

**25.** What suggestions you may give to make group teaching successful?

…………………………………………………………………………………………………………
……………………………………………………………………………………… **Thank you!**

## Appendix D: Focus Group Discussion with Students

Dear students,

As part of my research study on teaching and learning research methodology in our department, I would like to discuss with you a couple of questions. Would you please answer as sincerely as possible? Discussions of these key questions contribute to understanding your attitudes about and expectations from learning a research methodology course. Your answers would be kept anonymous throughout the whole study report.

**Discussion Questions**

1. Have you ever been introduced to how scientific research study is conducted in the previous two years? , If yes, in which course?

2. Did TTU course cover any content on the methodology of scientific research?

3. If yes, are you motivated to learn more about research methodology?

4. Do you think that the knowledge and skills you acquired about research methodology enable you to conduct research? If no, why?

5. What are the teaching methods teachers adopt and you think help you develop your knowledge and skills?

6. Do your teachers, in other subjects, teach you through tutorials?

7. Do you prefer to study in groups? If yes, please justify why?

8. Do you think discussions with classmates can help you understand better the subject matter and build your skills?

9. Do you think that class time should be devoted more to lecturing or to practical activities?

10. What do you think of studying research methodology through interacting with peers in tutorials? Would it help you gain more knowledge and skills on how to conduct research?

**Thank you for your time!**

## Appendix E: Observation Grid of the Tutoring Sessions

| Tutorial | Groups | | Students interactions | | | | |
|---|---|---|---|---|---|---|---|
| | | | **Very interactive:** All members are contributing great deal of discussion | **Interactive:** All members are contributing average degree of discussion | **Not fully interactive:** Some members are reluctant to participate in discussion. | **Slightly interactive:** One student dominates the discussion. | **Passive:** Each student in the group is doing the activities alone. |
| 1 | G1 | S1 | | | | | |
| | | S2 | | | | | |
| | | S3 | | | | | |
| | G2 | S4 | | | | | |
| | | S5 | | | | | |
| | | S6 | | | | | |
| | G3 | S7 | | | | | |
| | | S8 | | | | | |
| | | S9 | | | | | |
| | G4 | S10 | | | | | |
| | | S11 | | | | | |
| | | S12 | | | | | |
| | G5 | S13 | | | | | |
| | | S14 | | | | | |

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|---|---|---|---|---|---|---|---|
| | | S15 | | | | | |
| | G6 | S16 | | | | | |
| | | S17 | | | | | |
| | | S18 | | | | | |
| | G7 | S19 | | | | | |
| | | S20 | | | | | |
| | | S21 | | | | | |
| | G8 | S22 | | | | | |
| | | S23 | | | | | |
| | | S24 | | | | | |
| | G9 | S25 | | | | | |
| | | S26 | | | | | |
| | | S27 | | | | | |
| | G10 | S28 | | | | | |
| | | S29 | | | | | |
| | | S30 | | | | | |
| 2 | G1 | S1 | | | | | |
| | | S2 | | | | | |
| | | S3 | | | | | |
| | G2 | S4 | | | | | |
| | | S5 | | | | | |
| | | S6 | | | | | |
| | G3 | S7 | | | | | |

|  |  | S8 |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
|  |  | S9 |  |  |  |  |  |
|  | G4 | S10 |  |  |  |  |  |
|  |  | S11 |  |  |  |  |  |
|  |  | S12 |  |  |  |  |  |
|  | G5 | S13 |  |  |  |  |  |
|  |  | S14 |  |  |  |  |  |
|  |  | S15 |  |  |  |  |  |
|  | G6 | S16 |  |  |  |  |  |
|  |  | S17 |  |  |  |  |  |
|  |  | S18 |  |  |  |  |  |
|  | G7 | S19 |  |  |  |  |  |
|  |  | S20 |  |  |  |  |  |
|  |  | S21 |  |  |  |  |  |
|  | G8 | S22 |  |  |  |  |  |
|  |  | S23 |  |  |  |  |  |
|  |  | S24 |  |  |  |  |  |
|  | G9 | S25 |  |  |  |  |  |
|  |  | S26 |  |  |  |  |  |
|  |  | S27 |  |  |  |  |  |
|  | G10 | S28 |  |  |  |  |  |
|  |  | S29 |  |  |  |  |  |
|  |  | S30 |  |  |  |  |  |

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| 3 | G1 | S1 | | | | | |
|---|----|-----|--|--|--|--|--|
| | | S2 | | | | | |
| | | S3 | | | | | |
| | G2 | S4 | | | | | |
| | | S5 | | | | | |
| | | S6 | | | | | |
| | G3 | S7 | | | | | |
| | | S8 | | | | | |
| | | S9 | | | | | |
| | G4 | S10 | | | | | |
| | | S11 | | | | | |
| | | S12 | | | | | |
| | G5 | S13 | | | | | |
| | | S14 | | | | | |
| | | S15 | | | | | |
| | G6 | S16 | | | | | |
| | | S17 | | | | | |
| | | S18 | | | | | |
| | G7 | S19 | | | | | |
| | | S20 | | | | | |
| | | S21 | | | | | |
| | G8 | S22 | | | | | |
| | | S23 | | | | | |

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|---|---|---|---|---|---|---|---|
| | | S24 | | | | | |
| | G9 | S25 | | | | | |
| | | S26 | | | | | |
| | | S27 | | | | | |
| | G10 | S28 | | | | | |
| | | S29 | | | | | |
| | | S30 | | | | | |
| 4 | G1 | S1 | | | | | |
| | | S2 | | | | | |
| | | S3 | | | | | |
| | G2 | S4 | | | | | |
| | | S5 | | | | | |
| | | S6 | | | | | |
| | G3 | S7 | | | | | |
| | | S8 | | | | | |
| | | S9 | | | | | |
| | G4 | S10 | | | | | |
| | | S11 | | | | | |
| | | S12 | | | | | |
| | G5 | S13 | | | | | |
| | | S14 | | | | | |
| | | S15 | | | | | |
| | G6 | S16 | | | | | |

|   |     | S17 |   |   |   |   |   |
|---|-----|-----|---|---|---|---|---|
|   |     | S18 |   |   |   |   |   |
|   | G7  | S19 |   |   |   |   |   |
|   |     | S20 |   |   |   |   |   |
|   |     | S21 |   |   |   |   |   |
|   | G8  | S22 |   |   |   |   |   |
|   |     | S23 |   |   |   |   |   |
|   |     | S24 |   |   |   |   |   |
|   | G9  | S25 |   |   |   |   |   |
|   |     | S26 |   |   |   |   |   |
|   |     | S27 |   |   |   |   |   |
|   | G10 | S28 |   |   |   |   |   |
|   |     | S29 |   |   |   |   |   |
|   |     | S30 |   |   |   |   |   |
| 5 | G1  | S1  |   |   |   |   |   |
|   |     | S2  |   |   |   |   |   |
|   |     | S3  |   |   |   |   |   |
|   | G2  | S4  |   |   |   |   |   |
|   |     | S5  |   |   |   |   |   |
|   |     | S6  |   |   |   |   |   |
|   | G3  | S7  |   |   |   |   |   |
|   |     | S8  |   |   |   |   |   |
|   |     | S9  |   |   |   |   |   |

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|---|---|---|---|---|---|---|---|
| | G4 | S10 | | | | | |
| | | S11 | | | | | |
| | | S12 | | | | | |
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| | | S14 | | | | | |
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| | G6 | S16 | | | | | |
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| | | S21 | | | | | |
| | G8 | S22 | | | | | |
| | | S23 | | | | | |
| | | S24 | | | | | |
| | G9 | S25 | | | | | |
| | | S26 | | | | | |
| | | S27 | | | | | |
| | G10 | S28 | | | | | |
| | | S29 | | | | | |
| | | S30 | | | | | |
| 6 | G1 | S1 | | | | | |
| | | S2 | | | | | |

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|---|---|---|---|---|---|---|
| | | S3 | | | | |
| | G2 | S4 | | | | |
| | | S5 | | | | |
| | | S6 | | | | |
| | G3 | S7 | | | | |
| | | S8 | | | | |
| | | S9 | | | | |
| | G4 | S10 | | | | |
| | | S11 | | | | |
| | | S12 | | | | |
| | G5 | S13 | | | | |
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| | G6 | S16 | | | | |
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| | G7 | S19 | | | | |
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| | | S21 | | | | |
| | G8 | S22 | | | | |
| | | S23 | | | | |
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| | G9 | S25 | | | | |

|   |     | S26 |  |  |  |  |  |
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|   |     | S27 |  |  |  |  |  |
|   | G10 | S28 |  |  |  |  |  |
|   |     | S29 |  |  |  |  |  |
|   |     | S30 |  |  |  |  |  |
| 7 | G1  | S1  |  |  |  |  |  |
|   |     | S2  |  |  |  |  |  |
|   |     | S3  |  |  |  |  |  |
|   | G2  | S4  |  |  |  |  |  |
|   |     | S5  |  |  |  |  |  |
|   |     | S6  |  |  |  |  |  |
|   | G3  | S7  |  |  |  |  |  |
|   |     | S8  |  |  |  |  |  |
|   |     | S9  |  |  |  |  |  |
|   | G4  | S10 |  |  |  |  |  |
|   |     | S11 |  |  |  |  |  |
|   |     | S12 |  |  |  |  |  |
|   | G5  | S13 |  |  |  |  |  |
|   |     | S14 |  |  |  |  |  |
|   |     | S15 |  |  |  |  |  |
|   | G6  | S16 |  |  |  |  |  |
|   |     | S17 |  |  |  |  |  |
|   |     | S18 |  |  |  |  |  |

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| | G7 | S19 | | | | | |
| | | S20 | | | | | |
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| | G8 | S22 | | | | | |
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| | G9 | S25 | | | | | |
| | | S26 | | | | | |
| | | S27 | | | | | |
| | G10 | S28 | | | | | |
| | | S29 | | | | | |
| | | S30 | | | | | |
| 8 | G1 | S1 | | | | | |
| | | S2 | | | | | |
| | | S3 | | | | | |
| | G2 | S4 | | | | | |
| | | S5 | | | | | |
| | | S6 | | | | | |
| | G3 | S7 | | | | | |
| | | S8 | | | | | |
| | | S9 | | | | | |
| | G4 | S10 | | | | | |
| | | S11 | | | | | |

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|---|---|---|---|---|---|---|---|
| | | S12 | | | | | |
| | G5 | S13 | | | | | |
| | | S14 | | | | | |
| | | S15 | | | | | |
| | G6 | S16 | | | | | |
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| | G10 | S28 | | | | | |
| | | S29 | | | | | |
| | | S30 | | | | | |

# Appendix F: 1ˢᵗ Pre-test in Research Techniques

**Activity One: Briefly answer the following questions:**

Q 1: What is the difference between a research activity and any other academic activity?

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Q 2: Is research composed of one single task or it is a result of a combination of many tasks?

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Q 3: If you think that it is a combination of many tasks, name them.

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Q 4: Name some types of final products of research studies.

…………………………………………………………………………………………………
…………………………………………………………………………………………………
………………………………………………………………………………………………….

Q 6: Name some styles of writing by which any final research product is written by?

…………………………………………………………………………………………………
………………………………………………………………………………………………

**Activity Two:** *After reading the following abstract of a research study, answer the questions bellow:*

*Abstract*

The differences in communication styles between men and women has been a topic of interest in the research world for many years. These differences may lead to miscommunication, conflict, and even dissatisfaction between couples. This study analyzes the communication styles among genders, more specifically among married couples. It questions how differences in communication styles between married couples married five years or less affect marital satisfaction. The study will be conducted through the use of an interaction analysis. Its goal is to increase the amount of knowledge regarding effective communication and how it relates to marital satisfaction in order to ultimately aid in the rise of marital satisfaction and the decrease of the divorce rate in the United States.

1) What problem is investigated in the study?

…………………………………………………………………………………………………

2) Was the problem stated with sufficient clarity so that you knew exactly what was being investigated in the study?

…………………………………………………………………………………………………………

………………………………………………………………………………………………………….

*3)* What was the independent variable in this study?

…………………………………………………………………………………………………………

*4)* What was the dependent variable?

…………………………………………………………………………………………………………

*5)* What was the population?

…………………………………………………………………………………………………………

*6)* Write the tentative hypothesis of this problem

…………………………………………………………………………………………………………

**Activity three: Turn the following statement into specific question suitable for research.**

Peer tutoring affect the performance of ESL students on essays
**Question:**…………………………………………………………………………………………

………………………………………………………………………………………………………

**Choose one type of research and explain in no more than five sentences how this question is answered through this type and what data gathering tools are suitable.**

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**Thank you !**

## Appendix G: 1st Post-test in Research Techniques

**I. Knowledge of research methodology: Briefly answer the following questions**

1. What makes a research problem researchable?

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…….…………………………………………………………………………………............
.................................................................

2.  What is the relationship between the independent and dependent variable? Give an example

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3. Explain the role of the hypothesis in a research study?

………………………………………………………………………………………………
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………………………………………………………………………………………………
………………………………………………..……..

4.  How are objectives written in a research study?

………………………………………………………………………………………………
………………………………………………………………………………………………
…………………………………………

**II. Assessment of research skills: Employ your research methodology knowledge to do the following:**
**Read the following abstract and critically answer the questions.**

**Abstract**

This study examined the impact of explicit instruction on metacognitive reading strategies among 18 K-8 teacher candidates in a literacy methods course. They received weekly explicit intervention about these strategies over one semester. Collected data included pre- and post-scores of the Metacognitive Awareness of Reading Strategies Inventory (MARSI) before and after intervention, quick writing notes, literacy lesson plans, and reflection papers. The results showed that the teacher candidates increased their awareness of metacognitive reading strategies after the intervention. They also shared their positive attitudes toward learning about these strategies and plan to implement them in their future classrooms.

**1. What is the research problem addressed in this study?**

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………………………………………………………………………………………………
…………………………………………

**2. Identify the independent and dependent variables:**

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**3. Write a question for this research problem**

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……………………………………

**4. Write two objectives for this study:**

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……………………………………

**5. Write a good hypothesis suitable for this research problem**

…………………………………………………………………………………………………………………………
……………

**Thank you!**

## *Appendix H: 2ⁿᵈ Pre-test in Research Techniques*

**1.** What is the difference between the qualitative, quantitative, and mixed methods designs?
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………………………………………………………………………………………………
………………………………………………………………………………………………

**2.** What is a questionnaire and what type of data are gathered from questionnaires?
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**3.** In what ways interviews are different from questionnaires?
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**4.** If the number of the population is big, are you going to conduct your research with all of the subjects?
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………………………………………………………………………………………………
………………………………………………………………………………………………

**5.** How are data gathered from questionnaires and interviews analyzed?
………………………………………………………………………………………………
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………………………………………………………………………………………………

**6.** In which section your data answers the research questions?
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**7.** What are the major elements of a research paper?
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**8.** What do we mean by plagiarism and how to avoid it?
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………………………………………………………………………………………………
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## Appendix I: 2$^{nd}$ Post-test in Research Techniques

*The following is a data analysis of a questionnaire on EFL Students' Reading Habits administered to a total of 191participants. Read carefully the analysis and write its discussion section.*

Findings on reading habits were analyzed through different aspects such as the types of reading materials read, the amount of time spent on reading per week, the sources used to get the reading materials, and the time of day spent on reading. Before doing that, we collected some demographic information about our respondents.

### Table 1. Demography of respondents

| Male | Female | Level | | | | Age** | | |
|------|--------|-------|------|------|------|-------|------|------|
| | | 1$^{st}$ | 2$^{nd}$ | 3$^{rd}$ | Master | <20 | 20-30 | 30< |
| 46 24.0% | 145 75.9% | 43 22.8% | 22 11.7% | 95 50.5% | 28 14.8% | 23 12.7% | 156 86.1% | 02 01.1% |

*: three students did not mention their level.
**: ten students did not mention their age.

A total of 191 respondents took part in this study. Among the respondents, 145 (75.9%) were females and the 46 respondents (24.0%) were males. It is reported that the respondents were students of all undergraduate levels at the department of English language (Licence and master classes). Table 1 also shows that the majority of the respondents" 86.1% (156) are aged between 20 and 30 years. Respondents who are aged less than 20 years represent 12.7% (23) of the whole population. Finally, respondents whose ages are more than 30 years represent 01.1% (02) of the population of our study.

### Table 2. Reading habit among students

| Are you an avid reader? | Respondents | Percentage (%) |
|-------------------------|-------------|----------------|
| Yes | 94 | 49.3 |
| No | 97 | 50.7 |
| **Total** | **191** | **100 %** |

Table 2 shows that students" answers to the question: "are you an avid reader?" are almost equal between those who said „yes" and those who said „no". It is remarked also in question #2 (table 3. Favorite leisure time activities) that from a total of 94 respondents who answered „yes" for the question #1 (table 2. Reading habit among students), only 43 respondents (45.7%) said they read books in their spare time!

### Table 3. Favourite leisure time activities

| Activities | Respondents | Percentage (%) |
|------------|-------------|----------------|
| Play computer or smart phone | 101 | 52.8 |
| Sleep | 37 | 19.3 |
| Watch TV | 95 | 49.7 |
| Read books | 68 | 35.6 |

Table 3 presents a list of activities students like to do during leisure time. Dominating on the list: playing computer or smart phone, followed by TV watching, these findings answer one of our research questions asked at the beginning of the study (question N° 3). This shows that the students do not prefer to read during their spare time. A majority of the respondents were found to prefer different activities rather than reading (only 35.6% of the respondents said they read during leisure time). This agrees with what Pandian (2000) and Subashini &

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Balakrishnan (2013)10 have found and where they stated that the spread of modern digital technologies affected negatively students" time allocated to reading.

### Table 4. Types of books

| Types of Books | Respondents | Percentage (%) |
|---|---|---|
| Fiction | 58 | 30.3 |
| Non-fiction | 25 | 13.2 |
| Both | 108 | 56.5 |
| **Total** | **191** | **100%** |

Table 4 shows that the majority of the respondents read both types of books (fiction & non-fiction). In addition, there are students who prefer reading only one type of books (fiction or non-fiction).

### Table 7. Time spent on reading (per day)

| Length of Book Reading | Respondents* | Percentage (%) |
|---|---|---|
| Less than an hour | 122 | 65.2 |
| 2 to 4 hours | 53 | 28.3 |
| 4 to 6 hours | 9 | 04.8 |
| Above 6 hours | 3 | 01.6 |
| **Total** | **187** | **100%** |

*: four students did not answer this question.

Table 7 shows the distribution of the amount of time spent on reading per day by the students. The results indicate that the majority of the respondents spend less than one hour per day on reading, and only three students who are considered avid readers since they spend more than six hours per day on reading.

Table 9. Attractive factors in books

| Factors | Respondents | Percentage (%) |
|---|---|---|
| Cover Page | 67 | 35.0 |
| Author | 63 | 32.9 |
| Recommendation | 18 | 09.4 |
| Summary | 98 | 51.3 |

Table 9 reports that the majority of the respondents decide to read a book only after reading its summary. This can be interpreted by the fact that they are selective and know exactly what they want to read. This interpretation is supported by the answers of the students, which were reported in table 10.

### Table 10. Reasons of reading

| Reasons of Reading | Respondents | Percentage (%) |
|---|---|---|
| To pass the exam | 40 | 20.9 |
| For fun | 55 | 28.7 |
| To be well informed | 92 | 48.1 |
| To be well developed | 95 | 49.7 |
| To while away time | 21 | 10.9 |

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

Table 10 shows that two major reasons push students to read. The first one is to be well developed and the second one is to be well informed. This explains why the majority of the students read the summary of the books first (we have mentioned that the respondents are selective in their readings -table 10- )

**Table 11. Sources of information about books**

| Sources of Information About Books | Respondents | Percentage (%) |
|---|---|---|
| Library | 53 | 27.7 |
| Bookstores | 43 | 22.5 |
| Blogs | 31 | 16.2 |
| Friends | 86 | 45.0 |
| Family | 26 | 13.6 |
| Newspapers | 20 | 10.4 |
| All of the above | 37 | 19.3 |

Table 11 illustrates the distribution of seven sources students use to get information about books. The majority of the students get informed about the books they read through their friends. In addition to that, the other sources like libraries, bookstores, blogs, family and newspapers as varied sources available for the students to get informed about books.

**Table 13. Students' attitudes towards reading habits**

| Do you think there is a decline in the reading habit? | Respondents | Percentage (%) |
|---|---|---|
| Yes | 128 | 67.0 |
| No | 63 | 32.9 |
| **Total** | 191 | 100% |

Table 13 does not offer an encouraging finding, because the majority of the students 128 (67.0%) believe that there is a decline in the reading habits. This view supports the main idea behind this research paper.

**Table 14. Reasons of the decline of reading habits among students**

| Decline Reasons | Respondents | Percentage (%) |
|---|---|---|
| Lack of Patience | 60 | 31.4 |
| Advent of TV | 55 | 28.7 |
| Lack of Interest | 59 | 30.8 |
| Cost Factor | 07 | 03.6 |
| School Assignments | 10 | 05.2 |
| Lack of Access to Books | 27 | 14.1 |
| Others | 10 | 05.2 |

Table 14 presents reasons given by the students that they think are the obstacles to reading. On the top of the list, we can notice the lack of patience. As we expected, in the research questions, that students are going to mention new technologies as a main factor to the decline of the reading habits like the advent of TV, which comes in the third place (28.7%). Finally, cost factor (03.6%) which was a little bit surprising as it came at the bottom of the list as far as the low living standards of the majority of the students are considered and compared to the expensive prices of the books.

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

### Table 15. Students' suggestions to improve the reading habits

| Suggestions | Respondents | Percentage (%) |
|---|---|---|
| Make reading compulsory in academic curriculum | 41 | 21.4 |
| Encouragement by family/friends | 76 | 39.7 |
| Launching reading clubs | 50 | 26.1 |
| Gift books can help! | 76 | 39.7 |
| Others | 04 | 02.0 |

Table 15 reports the suggestions of the students to improve their reading habits. It is also surprising when we find the „encouragement by the family and/or friends" and „gift books" as the main suggestions with 39.7% for both of them. Whereas, the library of the department suggests hundreds of books for free but only 21.9% of the respondents who visit it (table12).

*Student's full name:………………..*                    *Group: ………………..*

### *Answer: Data Discussion*

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## Appendix K: Group Information Sheet for Research Methodology Project

| | |
|---|---|
| *Team logo* | |
| *Team Project Title:* | |
| *Name of the team leader:* | |
| *Special skills of the leader* | |
| *Name of team member 1* | |
| *Special skills of member 1* | |
| *Name of team member 2* | |
| *Special skills of member 2* | |
| *Meeting times:* | *1. (date)* |
| | *2. (date)* |
| | *3. (date)* |
| | *4. (date)* |
| | |

## Appendix L: Research Methods Project: Peer Evaluation

**RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS**

| Your Name: | Areas of Evaluation | | | Overall contribution |
|---|---|---|---|---|
| | *Communication* | *organization* | *Execution* | |
| **Member 1:** | | | | *(100%)* |
| **Member 2:** | | | | *(100%)* |

*Comments* ………………………………………………………………………………………………
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**Appendix M: Group Evaluation Form on the 8 Tutorials**

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

Please rate the tutorial you have just received on the items below. Give your reaction to each separate item on the six-point scale below.

1: Highly unfavorable; 2: unfavorable; 3: Neutral; 4: favorable; 5: highly favorable

| *Grading criteria* | *Number of work shop* | | | |
| --- | --- | --- | --- | --- |
| | *Tutorial 1* | *Tutorial 2* | *Tutorial 3* | *Tutorial 4* |
| *1* | The tutorial was clearly structured. ① ② ③ ④ ⑤ | The tutorial was clearly structured. ① ② ③ ④ ⑤ | The tutorial was clearly structured. ① ② ③ ④ ⑤ | The tutorial was clearly structured. ① ② ③ ④ ⑤ |
| *2* | The main points given were clear and understandable. ① ② ③ ④ ⑤ | The main points given were clear and understandable. ① ② ③ ④ ⑤ | The main points given were clear and understandable. ① ② ③ ④ ⑤ | The main points given were clear and understandable. ① ② ③ ④ ⑤ |
| *3* | The activities given were relevant and interesting. ① ② ③ ④ ⑤ | The activities given were relevant and interesting. ① ② ③ ④ ⑤ | The activities given were relevant and interesting. ① ② ③ ④ ⑤ | The activities given were relevant and interesting. ① ② ③ ④ ⑤ |
| *4* | The pace (speed) was right for me. ① ② ③ ④ ⑤ | The pace (speed) was right for me. ① ② ③ ④ ⑤ | The pace (speed) was right for me. ① ② ③ ④ ⑤ | The pace (speed) was right for me . ① ② ③ ④ ⑤ |
| *5* | The amount of material covered was right for me. ① ② ③ ④ ⑤ | The amount of material covered was right for me. ① ② ③ ④ ⑤ | The amount of material covered was right for me. ① ② ③ ④ ⑤ | The amount of material covered was right for me. ① ② ③ ④ ⑤ |
| *6* | The tutorial was audible. ① ② ③ ④ ⑤ | The tutorial was audible. ① ② ③ ④ ⑤ | The tutorial was audible. ① ② ③ ④ ⑤ | The tutorial was audible. ① ② ③ ④ ⑤ |
| *7* | The tutorial was well presented. ① ② ③ ④ ⑤ | The tutorial was well presented. ① ② ③ ④ ⑤ | The tutorial was well presented. ① ② ③ ④ ⑤ | The tutorial was well presented. ① ② ③ ④ ⑤ |
| *8* | The tutorial held my attention all the time. ① ② ③ ④ ⑤ | The tutorial held my attention all the time. ① ② ③ ④ ⑤ | The tutorial held my attention all the time. ① ② ③ ④ ⑤ | The tutorial held my attention all the time. ① ② ③ ④ ⑤ |
| *9* | The teacher managed class discussions. ① ② ③ ④ ⑤ | The teacher managed class discussions. ① ② ③ ④ ⑤ | The teacher managed class discussions. ① ② ③ ④ ⑤ | The teacher managed class discussions. ① ② ③ ④ ⑤ |
| *10* | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ |

Comments:…………………………………………………………………………………………………
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Thank you for your help!

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

| Grading criteria | Number of work shop | | | |
|---|---|---|---|---|
| | Tutorial 5 | Tutorial 6 | Tutorial 7 | Tutorial 8 |
| 1 | The tutorial was clearly structured. ① ② ③ ④ ⑤ | The tutorial was clearly structured. ① ② ③ ④ ⑤ | The tutorial was clearly structured. ① ② ③ ④ ⑤ | The tutorial was clearly structured. ① ② ③ ④ ⑤ |
| 2 | The main points given were clear and understandable. ① ② ③ ④ ⑤ | The main points given were clear and understandable. ① ② ③ ④ ⑤ | The main points given were clear and understandable. ① ② ③ ④ ⑤ | The main points given were clear and understandable. ① ② ③ ④ ⑤ |
| 3 | The activities given were relevant and interesting. ① ② ③ ④ ⑤ | The activities given were relevant and interesting. ① ② ③ ④ ⑤ | The activities given were relevant and interesting. ① ② ③ ④ ⑤ | The activities given were relevant and interesting. ① ② ③ ④ ⑤ |
| 4 | The pace (speed) was right for me. ① ② ③ ④ ⑤ | The pace (speed) was right for me. ① ② ③ ④ ⑤ | The pace (speed) was right for me. ① ② ③ ④ ⑤ | The pace (speed) was right for me . ① ② ③ ④ ⑤ |
| 5 | The amount of material covered was right for me. ① ② ③ ④ ⑤ | The amount of material covered was right for me. ① ② ③ ④ ⑤ | The amount of material covered was right for me. ① ② ③ ④ ⑤ | The amount of material covered was right for me. ① ② ③ ④ ⑤ |
| 6 | The tutorial was audible. ① ② ③ ④ ⑤ | The tutorial was audible. ① ② ③ ④ ⑤ | The tutorial was audible. ① ② ③ ④ ⑤ | The tutorial was audible. ① ② ③ ④ ⑤ |
| 7 | The tutorial was well presented. ① ② ③ ④ ⑤ | The tutorial was well presented. ① ② ③ ④ ⑤ | The tutorial was well presented. ① ② ③ ④ ⑤ | The tutorial was well presented. ① ② ③ ④ ⑤ |
| 8 | The tutorial held my attention all the time. ① ② ③ ④ ⑤ | The tutorial held my attention all the time. ① ② ③ ④ ⑤ | The tutorial held my attention all the time. ① ② ③ ④ ⑤ | The tutorial held my attention all the time. ① ② ③ ④ ⑤ |
| 9 | The teacher managed class discussions. ① ② ③ ④ ⑤ | The teacher managed class discussions. ① ② ③ ④ ⑤ | The teacher managed class discussions. ① ② ③ ④ ⑤ | The teacher managed class discussions. ① ② ③ ④ ⑤ |
| 10 | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ | The teacher summarized the main points of the tutorial effectively. ① ② ③ ④ ⑤ |

Comments:……………………………………………………………………………………………………………………
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Thank you for your help!

# Appendix N: Students' Post-Experiment Questionnaire

Dear students,

This questionnaire is designed with the aim to find about your experience in learning about research methodology from the research techniques module in which we adopted tutoring teaching method and group works. Your answers and feedback are significant for our research study and they will be treated confidentially. Your cooperation would be highly appreciated.

## Section One: the content Covered during Tutorials

**1.** After eight tutorials in research techniques course evaluate the following statements as:

① Strongly disagree ② Disagree ③ Agree ④ Strongly Agree

| Statements | ① | ② | ③ | ④ |
|---|---|---|---|---|
| **1.** The tutorials were organized according to the steps of the research process. | | | | |
| **2.** The eight steps of the research process were fully practiced during these tutorials. | | | | |
| **3.** The tutorials served the lectures; they made them more comprehensive. | | | | |
| **4.** The types of activities in the tutorials covered the most important points of each lecture. | | | | |
| **5.** The number of activities within each tutorial was adequate to the time of the each session and also to your level of comprehension. | | | | |

**2.** How much difficult were the activities of each tutorial?

- Very difficult ☐
- Difficult ☐
- Adequate ☐
- Easy ☐
- Very easy ☐

**3**. Does the reading of the course lectures help you in understanding tutorials' activities?

      Yes ☐     No ☐

-Whatever your answer, please explain:

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**4.** Was the technique of summarizing lectures before attending tutorials helpful in doing the activities of each tutorial?

Yes ☐        No ☐

**Explain**…………………………………………………………………………………………………
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**5.** Was the overall organization of the tutorials easy to follow?    Yes ☐        No ☐

If  **No**, please say what is missing?

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**6.** To what extent are you satisfied with your knowledge and the skills you acquired from the research methodology lectures and tutorials.

**Explain**…………………………………………………………………………………………………
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**Section Two: The Students' Interactions During Tutorials**

**7.** During the eight tutorials, how much were you interacting with your group members?

- Very interactive
- Interactive
- Somehow Interactive
- Not interactive

**8.** How often did you ask your group members to explain difficult points in the tutorials or even the lectures?

- Very often
- Often
- Sometimes
- Rarely
- never

 **9.** Through the Google classroom community, have you ever asked a question concerning the lectures or the tutorials?

- Yes, I often ask questions
- Yes, a couple of times

- Yes, once
- Never

**10.** Were your group members collaborative? Yes    No

If No, please say why?

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…………………………………………………………………………………………………………

**11.** Was the teacher collaborative with you in the tutoring sessions?    Yes     No

If No, please say why?

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**12.** To what extent collaboration with your group members and classmates motivate you to learn more about research methodology?

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**Section Three: Evaluation of Research Methodology Knowledge and Skills Development through Conducting Research Projects**

**13.** When you have conducted your research projects, you went through all steps of research. Please read the following statements and evaluate them as ①**very easy,** ②**easy**, ③**difficult**, ④**very difficult**

| Statements | ① | ② | ③ | ④ |
|---|---|---|---|---|
| 1. Formulating the research question (narrowing down the topic) | | | | |
| 2. Determining research objectives | | | | |
| 3. Reviewing the literature | | | | |
| 4. Arriving at possible hypothesis | | | | |
| 5. Selecting and planning an appropriate research design | | | | |
| 6. Constructing an instrument for data collection (questionnaire) | | | | |
| 7. Data Analysis and discussion | | | | |
| 8. Writing up the research project | | | | |

**14.** If you would be given the chance to have more interactive tutorials on research methodology course, what are the steps that you choose on which you have more activities.

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**15.** Have you chosen the topic of your research project with collaboration with your group members, or it was the choice of one member?

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**16.** What was the role of the tutor (teacher) in the stage of the problem selection?

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**17.** Have you asked other people about the research topic you have chosen?   Yes   No

**If Yes,** who are they?

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**18.** Does the organization of tutorials according to the research steps facilitate the realization of your project?

Yes   ☐        No   ☐

**Section Four: The Tutor and the Classroom Management**

19. Please grade the following as**: ①highly favorable ②favorable ③slightly unfavorable ④ unfavourable**

| Statement | ① | ② | ③ | ④ |
|---|---|---|---|---|
| **1.** The teacher summarized the main points of the tutorial effectively. | | | | |
| **2.** The teacher presented the tutorials well. | | | | |
| **3.** The teacher was a source of motivation. | | | | |
| **4.** The teacher managed class discussions. | | | | |
| **5.** The sitting was comfortable to work in groups. | | | | |
| **6.** Class time was adequately divided among groups. | | | | |
| **7.** All groups were handed tutorials worksheets. | | | | |

**20.** Please provide some suggestions that can help improve the teaching of research methodology especially as far as the teaching method is concerned.

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**Thank you a lot for your cooperation**

**Appendix O: Third Year Research Techniques Course Syllabus**

**People's Democratic Republic of Algeria**
**Ministry of Higher Education and Scientific Research**
**Batna 2 University**

**RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS**

**Faculty of Foreign Languages**
**Department of English**

**Third Year Research Techniques Course Syllabus**

**Instructor:** Mrs. Derouag Mounira
**E-mail**: m.derouag@univ-batna2.dz
**Office:** 09
**Office Hours:**
**Office Hours:** Wednesday, 9:00h -11h:30

**I. Course Description:**

   **Research Techniques** is a module which introduces the essentials of the world of scientific educational investigation. Third year students at this department have been dealt with some skills and techniques of how to approach their projects at the university level, such as choosing topics, managing time, taking notes, working in groups, and presenting their works etc. However, during their previous two years they have not been either theoretically or practically introduced directly to the fundamentals of a scientific educational research project and the skills that are required to accomplish one. Therefore, this course is going to prepare them for the graduate level and future academic life (master degree and others) as much of their assignments will depend on mastering the essential **skills of collecting data** based on different data collection methods, **constructing research tools**, **analysing both qualitative and quantitative data, and presenting the findings.** However, because of the health conditions in which we are working this year (COVID—19), the online content will be brief and theoretical; and the onsite tutorials will be practical and activity-based.

**II. Course Objectives**

By the end of this course students will be able to:

   1. Develop basic knowledge of  educational research methodology

   2. Identify researchable project topics

   3.  Critically choose and read appropriate literature

   4. Select an appropriate research design

   5. Write a research proposal and conduct a simple research project.

   *III. Requirements and evaluation*

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

Research Techniques is a TD (travaux diriges, supervised practical work) course; that is, it is mainly assessed through continuous evaluation and students will sit for **No** exam. So, students will be graded on the following tasks:

**Semester one: the requirements are as follows**:

1. Classroom and home activities
2. Writing a simplified research proposal

**Semester two: the requirements are as follows**

1. Classroom and home activities
2. Preparing a list of references and writing a literature review (in a form of an essay)
3. Designing a questionnaire and an interview
4. Writing a small research project

## IV. Course Content

### First Term:  Introductory Lectures on Research Techniques

### Unit One:  Research Methodology-in a nutshell

1. The concept of research (meaning, characteristics, purposes)
2. The difference between: methodology, methods, and techniques
3. Classification of methods
4. Stages of the research process
5. Follow up activities

### Unit Two: Selecting a Problem and Identifying Variables

1. Identifying a problem area and selecting a topic  (Sources of the problem)
2. Criteria for selecting a problem
3. Classroom Research Problems
4. Learning about variables and their types
5.  Writing a statement of the problem and generating research questions
6. Follow up activities

### Unit Three: Developing research objectives and formulating Hypothesis (es)

1.  Determining research objectives.
2. Arriving at hypothesis(es)
3. Follow up activities

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

## Unit Four: Reading and Reviewing Related Literature

1. Meaning of Review of Literature
2. Objectives of Review of Literature
3. Sources of Literature
4. Reporting the Review of Literature (Quoting/ Paraphrasing/ Summarizing**)**
5. Follow-up activities

## Unit Five: Preparing a Research Proposal

1. The major sections of a research proposal
2. A sample research proposal
3. Follow -up activities

## Second Term: Designing an Undergraduate Final year project

## Unit One: Selecting an appropriate research design

1. Research design
2. Selecting the appropriate method (quantitative, qualitative, mixed methods)
3. Constructing an instrument for data collection (questionnaire, observation, interview, focus groups, etc.)
4. Learning about sampling techniques
5. Data analysis and discussion
6. Follow-up activities

## Unit Two: Writing up a research project

1. Elements of a  research project
2. General introduction to academic writing
3. Avoiding plagiarism
4. Quoting/paraphrasing/summarising
5. Styles of Academic writing
   a. The APA style
   b. The MLA style

## V. References

1. Beiske, B. (2003). *Research methods: Uses and limitations of questionnaire, interviews, and case studies.* Retrieved (May 7, 2010) from www.atpas.com/surveys.
2. Biggam, J.  (2008).  *Succeeding with your master's dissertation: A step-by-step handbook.*     Berkshire, England: Open University Press.

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

3. *Cohen, L. Lawrence, M., & Morrison, K. (2005). Research Methods in Education (5th edition). Oxford: Oxford University Press.*
4. Dornyei, A. (2007). *Research methods in applied linguistics*. Oxford: Oxford University Press.
5. Jackson, S.L. (2009). *Research methods and statistics:  A critical thinking approach.* ( 3rd ed.).  Belmont, CA: Wadsworth.
6. Kothari, C.R. (2004). *Research methodology: Methods and techniques.* ($2^{nd}$ rev. ed.). New Age International (P) Ltd, Publishers.
7. *Kumar, R. (2011). Research Methodology: a step-by-step guide for beginners (3rd edition). London, UK: TJ International Ltd, Padstow, Corwall.*
8. *Singh, Y. K. (2006). Fundamental of Research Methodology and Statistics. New Delhi. New International (P) Limited, Publishers.*
9. *Wallinman, N. (2006). Your Research Project: A step-by-step guide for the first-time researcher. London: Sage Publications.*

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

## Appendix P: Samples of Tutorial Sheets

### *Tutorial 1: Clearing Our Vision on Research Methodology*

## Learning goals

- Acquire an understanding of what we mean by "research"
- Differentiate between methodology, method, and technique
- Learn about different types of research
- Get an idea of the research process

## Learning tasks: A first look at research

## Task one:

**Task 1**

What is your response to the term 'research'?

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Identify any hopes and fears you have about being asked to conduct research.

- Hopes

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- Fears

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**Task Two: What are the essential features that make research scientific?**

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

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**Task Three: Use the above features to find what research means in each of the following cases and then decide whether they describe what research is or is not.**

1. A sixth grader comes home from school and tells her parents, "The teacher sent us to the library today to do research, and I learned a lot about black holes."

**For this student, research means:**

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2. The house across the street is for sale. You consider buying it and call your realtor to find out how much someone else might pay you for your current home. "I'll have to do some research to determine the fair market value of your property," the realtor tells you. This information will help the realtor in on a reasonable asking price for your own home.

**For this person research means:**

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3. A college student reads several articles about the mysterious Dark Lady in William Shakespeare's sonnets and then writes a "research paper" describing various scholars' suggestions of who the lady might have been.

**For this person research means:**

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# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

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**Task four:**

**A. Write one sentence definition of the following terms and tell what relationship unites them.**

**Methodology:**……………………………………………………………………………………………....

.

**Method:**………………………………………………………………………………………………

**Techniques:** …………………………………………………………………………………………

 **B. Indicate whether the following terms are __methods__ or __techniques __of research**

Questionnaire, content analysis, qualitative, interview, quantitative, focus group, survey, experiment, correlational, observation, action research

| Methods | Techniques |
|---|---|
|  |  |

**Task five: Redesign the diagram of the research process in the way that makes you better remember all of the steps.**

**Homework**

**Task four: Meet the Researcher (group work)**

Take the time to find a person who has completed a few research projects—preferably a teacher at your department, or even someone who has recently finished a dissertation. Ideally this individual should be someone in your own field of study. Ask the questions listed in the following checklist. If you can't locate anyone locally, it may be possible to recruit one or more willing individuals through e-mail.

## ✔ CHECKLIST

### Interviewing an Expert Researcher

_____ 1. How do you start a research project?

_____

_____

_____ 2. What specific tools do you use (e.g., library resources, computer software, forms of measurement, statistics)?

_____

_____

_____ 3. How did you gain your expertise with the various tools you use?

_____

_____

_____ 4. What are some important experiences you suggest for a novice researcher?

_____

_____

_____ 5. If I wanted to learn how to become a competent researcher, what specific tools would you suggest I work with?

_____

_____

**Activity five (individual work)**

-Go to the following website and know about your department's teachers' research interests

-Write the topics which are interesting to you and write the corresponding authors.

http://eprints.univ-batna2.dz/view/subjects/GB.html

-Or you may go to the library and pick master theses and write the topics that interest you and the years when the research was conducted

## _Tutorial 2: Selecting a Research Problem and Identifying Variables_)
**Learning objectives**

1. Discuss topics of interest and limit the choices to one topic

2. Be clear about the research variables of the chosen topics

3. Learn how to make good research questions out of the chosen topics

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

**Activity one**

**1. Discuss the topics you have chosen with your group members and try to come up with three related topics**

    **A.** …………………………………………………………………………………………

    **B.** …………………………………………………………………………………………...

    **C.** …………………………………………………………………………………………

**2.**

*Why are you interested in the above subject or topic? Write your thoughts in the space below:*

**3. Write down all variables that appear in the above topics and try to identify them as dependent and independent**

………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

**4. Out of these variables try to come up with a new topic and write it in a form of a research question.**

………………………………………………………………………………………………
………………………………………………………………………………………………
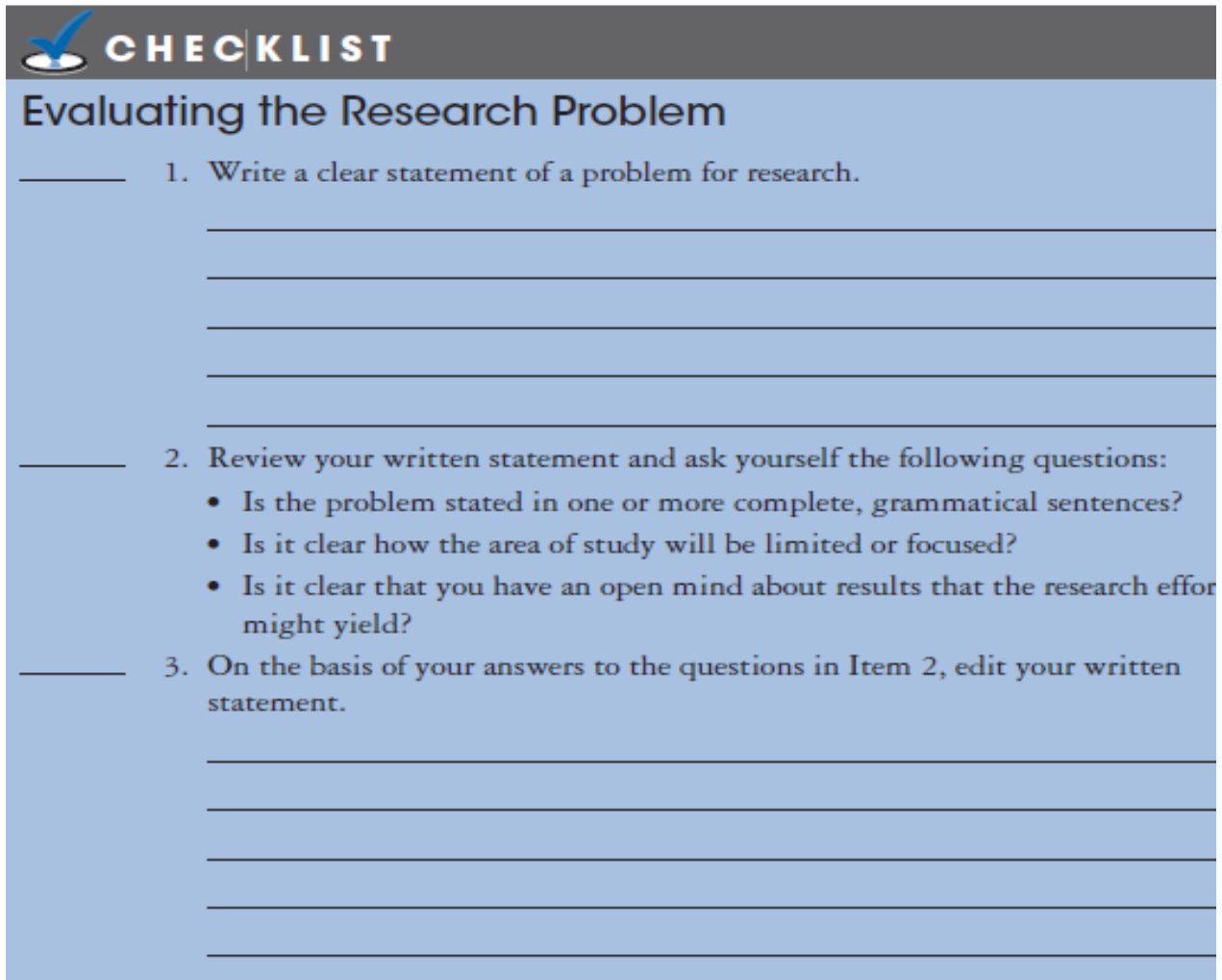………………………………………………………………………………………………
…………………………………………………………………………………..

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

**Homework**

**Group work:** Use the following checklist to evaluate your research problems.

If you think that the research problem you have chosen in the tutorial is not that much interesting, you can come up with your own new topic, research problem, and of course research question.

## CHECKLIST

### Evaluating the Research Problem

_____  1. Write a clear statement of a problem for research.

_____

_____

_____

_____

_____

_____  2. Review your written statement and ask yourself the following questions:
- Is the problem stated in one or more complete, grammatical sentences?
- Is it clear how the area of study will be limited or focused?
- Is it clear that you have an open mind about results that the research effor might yield?

_____  3. On the basis of your answers to the questions in Item 2, edit your written statement.

_____

_____

_____

_____

_____

_____ 4. Look at your edited statement and reflect on the following questions:
- Does the answer to this problem have the potential for providing import
  useful answers and information?
- Will the result be more than a simple exercise in gathering information,
  ing a yes-or-no question, or making a simple comparison?
- Is the problem focused enough to be accomplished with a reasonable exp
  of time, money, and effort?

_____ 5. Looking at the statement once more, consider this: Is the problem really wh
want to investigate?

_____ 6. Show some of your colleagues or fellow students your work. Ask them to co
the questions listed in Items 2 and 4 and then to give you their comments.
your compiled feedback, edit and rewrite your problem statement once aga

_____

_____

_____

_____

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

## الملخص

إن تحسين نوعية تعليم الطلاب في التعليم العالي يركزدائماعلى إيجاد سبل لإشراك الطلاب في عملية تعلمهم. يرمي هذا البحث لتحسين تدريس مقياس منهجية البحث على مستوى المرحلةالجامعية، قبل التدرج. ويتمثل هدفه في تطويرمعرفة طلاب اللغات الاجنبية بمنهجيةالبحث والمهارات البحثية والاتجاهات الإيجابية تجاه البحث من خلال زيادة اعتماد أساليب التدريس التفاعلية من خلال إستراتيجيةالمرافقة البيداغوجية. على مستوى قسم اللغة الإنجليزية وآدابهابجامعة باتنة2 ، فقد تم جمع بيانات كمية ونوعية من خلال اعتماد تصميم وصفي و شبه تجريبي . ومن ثم ، تم جمع البيانات من: استبيانات ( 3 معلمين و 58 طالبًا ) ؛ مناقشات مجموعات التركيز (2 معلمين و 18 طالبًا )؛ الاختبارات التمهيدية وما بعد التجربة ( المجموعة الضابطة ( 28 ) والمجموعات التجريبية ( 30 ) ) ؛ مراقبة الفصول الدراسية ( المجموعة التجريبية ) ؛ استمارات تقييم المجموعات (المجموعة التجريبية) ؛ واستبيان ما بعد التجربة (المجموعة التجريبية) . بعد تحليل هذه البيانات من خلال تقنيات التحليل الإحصائي وتقنيات تحليل الوثائق ، أثبتت النتائج أن الطلاب الذين تلقواالتدريس من خلال الدروس التفاعلية ، أظهروامزيدا من الاحتفاظ بالمعارف فيما يخص منهجية البحث و مزيدامن تطوير المهارات وهكذا ، فإن هؤلاء الطلاب قد طوروا مواقف أكثر إيجابية إزاء البحث. لقد جرا وضع توصيات عملية من أجل تحسين تطبيق نموذج التدريس التفاعلي في البرنامج الدراسي المتعلق بمنهجية البحث و البرامج الأخرى في برنامج تعليم اللغات الاجنبية. تضاف نتائج هذه الدراسةإلى مجموعةالبحوث التي تدعم أساليب التدريس التفاعلية،المرافقة البيداغوجية والبحوث المتعلقة بتعليم منهجية البحث.

# RESEARCH METHODOLOGY TEACHING AND INTERACTIVE METHODS

## Résumé

L'amélioration de la qualité de l'apprentissage des étudiants dans l'enseignement supérieur se concentre davantage sur la recherche de moyens d'impliquer les étudiants dans leur processus d'apprentissage**.** Ce travail de recherche vise à améliorer l'enseignement de la méthodologie de recherche au niveau du premier cycle. Son objectif est de développer les connaissances des étudiants sur la méthodologie de recherche (KRM), les compétences de recherche (RS) et les attitudes positives à l'égard de la recherche en adoptant des méthodes d'enseignement plus interactives (IMT) par le biais de tutorat comme stratégie d'enseignement. Au département de langue et de littérature anglaise de l'Université Batna 2, des données quantitatives et qualitative sont été recueillies en adoptant un modèle descriptif et quasi expérimental., les données ont été recueillies à partir des questionnaires (3 enseignants et 58 étudiants), des discussions de groupes (2 enseignants et 18 étudiants), des tests préalables et de post-tests (groupe témoin (28) et groupe expérimental (30)), des observations en classe (groupe expérimental), des formulaires d'évaluation de groupe. (groupe expérimental); et un questionnaire post-expérimental (groupe expérimental). Après avoir analysé ces données au moyen de techniques d'analyse statistique et documentaire, les résultats ont démontrés que les étudiants qui ont reçu le traitement des tutoriels interactifs; ont développés d'importantes connaissances et compétences par apport à la méthodologie de recherche. Entoure, les étudiants ont développé des attitudes plus positives envers la recherche. Cette étude recommande fortement d'adopter le modèle d'enseignement interactif pour le cours de méthodologie de recherche et d'autres cours dans le cursus d'anglais comme langue étrangère. Les résultats de cette étude s'ajoutent au corpus de recherche soutenant les méthodes pédagogiques interactives, le tutorat et la recherche sur la pédagogie de la méthodologie de recherche**.**

**Mots-clés:** Attitudes envers la recherche; EFL Étudiants; méthodes d'enseignement interactives tutorat; connaissance de la méthodologie de la recherche; compétences en recherche