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Mohamed Kheider University of Biskra Faculty of Letters and Languages

Department of Foreign Languages

Section of English



Investigating the Effect of Integrating Flipped Learning Model on
Teaching Research Methodology.
The case of MASTER TWO students.

Dissertation Submitted in Partial Fulfillment of the Requirements for the Master Degree in
Sciences of Language

PREPARED BY:

Mr. CHERGUI Djamel Eddine

SUPERVISED BY:

Dr. ZEGHDOUD Meriem

Board of Examiners

Mrs. DJOUAMA Houda

(Chairperson)

(University of Biskra)

Dr. TEMAGOULT Slimane

(Examiner)

(University of Biskra)

Dr. ZEGHDOUD Meriem

(Supervisor)

(University of Biskra)

Mr. LEBIAR Khaled

(Examiner)

(University of Biskra)

Academic Year: 2020/2021

Declaration

I, CHERGUI Djamel Eddine, hereby declare that this submitted work is my original work and has not previously been submitted for any institution or university for a degree. I also declare that all of the cited and quoted sources in this work are put forward in the references list. This work was certified and completed at Mohammed KHEIDER University of Biskra. Algeria.

Certified: Mr. CHERGUI Djamel Eddine, Master student, Section of English.

Signature:

Dedication

I dedicate this work

To my beloved parents, you are the reason for what I have become now. Thank you for your continuous care and support.

To beloved brothers and sisters for being there for me when I needed them.

To my dear colleagues, who made this experience so exciting.

And to everyone that helped with this work...

Thank you

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Abstract

This study investigates the concept of flipped learning and its impact on teaching research methodology for master's two students of English at the University of Mohamed Khider in Biskra. More precisely, it investigates the impact of flipped learning theory on students' research skills. This study aims to provide an overview of the flipped learning concept and illustrate its application in the context of teaching research methodology to enhance students' attitudes towards this module by optimizing in-class practice and prompting learners' autonomy. We hypothesized that the integration of flipped learning would enhance the outcomes of research methodology classes. To accomplish the planned objectives of the present investigation, the researcher adopted a descriptive approach, which comprised two data collection tools; A students' questionnaire, which targeted master two EFL learners (n=80) who were chosen randomly. In addition, a semi-structured interview has been conducted with two teachers in the same department. The findings revealed that both teachers and students acknowledged that the integration of flipped learning in research methodology classes could yield a better understanding of the concept being learned by shifting focus from theory towards practice inside the classroom.

Keywords: Research methodology, EFL, Flipped learning, ELT, Methodology, Flipped classrooms.

List of Abbreviations and Acronyms

EFL: English as a Foreign Language.

ELT: English Language Teaching.

ICT: Information, Communication, and Technology.

CALL: Computer-Assisted Language Learning.

MALL: Mobile-Assisted Language learning.

TELL: Technology-Enhanced Language learning.

FLN: Flipped Learning Network.

RMLL: Research Methods in Language Learning.

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Résumé

General Introduction

Background of the Study

Research methodology is regarded as an essential subject that is incorporated in various disciplines, including ELT and EFL. Educators of English as a foreign language have put an emphasis on developing innovative methods for teaching language, in order to keep the learning process engaging and thought-provoking for the students and teachers alike.

ICT (assisted teaching and learning) refers to the use of Information, Communication, and Technology in the academic context; such implementation is designed to enhance and boost learners' productivity, connectivity, and creativity. Amongst the methods it offers is the flipped classroom method introduced by Bergmann and Samswhich in 2007 to help educators prioritize active learning during in-class hours by assigning students educational videos, PowerPoint presentations, and audio materials to be viewed outside of the classroom. It also helps learners be familiar with the language as they are getting a hands-on learning experience rather than depending solely on the teacher's instruction.

Flipped learning has been claimed to overcome one of the major challenges of language teaching, namely the insufficient time needed for learners to be adequately exposed to the target language (Kostka & Marshall, 2017) as the instructional content is shifted into the individuals' space, allowing the learners to engage with concepts and apply what they have learned outside the classroom. Cole (2009) Claimed that, as the criteria for the program expands, teachers are forced to make more productive use of class time through delivering the lecture, allocating enough time for in-class practice, and dedicating some time for discussion.

Barraket (2005) reported that, shifting the program towards the students' space had a beneficial impact on the learners' achievement and perception of the module. It allowed them to delve deep into the technical elements that make the curriculum. This shift towards

autonomous learning in the research methodology class has enhanced students' engagement with the course, and the learners reacted positively towards the formal approach.

Statement of the Problem

Encountering difficulties along the way of one's learning journey is a reasonably common phase, as the learners are being introduced to various subjects that differ from one another. This sort of predicaments can indicate that a particular element is not getting through to learners. This suggests that the method being followed in teaching is not fit for that specific subject, which lead educators to look for a replacement technique to fulfill that gap.

EFL master undergraduates in the University of Mohamed Khider are likely to benefit from having more practice in the classroom instead of focusing solely on theory. The lack of training in technical modules such as research methodology puts a strain on the learners once they are asked to perform any given task in that module. In other words, overlooking practice in the classroom leads learners to be passive and, consequently, become frustrated once they are at the phase of writing their thesis or dissertation.

Therefore, Implementing the flipped learning model as a modern approach to teach research methodology to EFL master undergraduates makes the learners more dynamic inside the classroom. Also, it ensures that the learners will have adequate exercise. as a significant portion of the theoretical part of the lectures is moved outside of the classroom. Thus, allowing for more practice to take place during sessions.

Research Questions

RQ1: What is the EFL learners' attitude towards the integration of ICT in research methodology?

RQ2: What are the main challenges associated with learning research methodology?

RQ3: What is the EFL teachers' perception of the flipped learning model?

RQ4: Will the shift from the traditional classroom to the flipped classroom enhance the learners' engagement and understanding of the research methodology course?

Research Hypothesis

H1: The integration of the flipped learning model will enhance EFL learners' research skills, motivation, and attitude towards learning research methodology.

Significance of the Study

This research aims to investigate the reasons behind the difficulties that MA undergraduates face during their research journey. Also, it highlights the vital importance of practice during class-time. This study aims to help teachers carry out lectures efficiently and effectively, assessing academic performance, quality of instruction, and exploring new methods for teaching research methodology. because flipped learning ensures the learners' education outside the classroom. Therefore, it allows students to get more practice in class under the supervision of their teacher. Moreover, it will also allow students to have a hands-on learning experience, which will enhance their research skills, motivation, ameliorate their knowledge, foster engagement with the course, help them overcome the complications they face while carrying out their research studies, and most importantly, change their attitude towards the subject of research methodology.

Operational Definitions of Terms

Research methodology: is a procedure to systematically solve a particular research problem. It is not limited to the research methods only but also considers the logic behind the researcher's choice of a specific method over other available alternatives (Kothari, 2004). In the present

study, research methodology refers to the course M2 students are enrolled in during the first term of the academic year 2020/2021.

Flipped classroom: is a teaching strategy that reverses the traditional educational arrangement, as instructional content is often delivered online outside of the classroom, and during class time, students engage with concepts under the supervision of their teacher (Abeysekera & Dawson, 2015). In the present study, the flipped classroom integration is within the course of Methodology of M2 students.

Review of the Related Literature

Several studies have been carried out in relation to the current study amongst them, Karimi and Hamzavi (2017) who conducted an investigation on the impact of the flipped model of instruction on EFL learners' reading comprehension at a private language institute in Isfahan, Iran. The participants of this study were 50 EFL learners within the age range of 19 to 25; they were selected and assigned into two experimental groups. The researcher made a reading comprehension pre-test and administered it to the participants. The experimental group were taught through the flipped model of instruction, whereas the control group were instructed via the traditional method. Consequently, the participants were asked to answer a questionnaire about flipped teaching. The ANCOVA findings showed that the flipped instructional approach had a positive impact on EFL students' reading comprehension ability. Furthermore, the frequency analysis illustrated that the participants of the experimental group had a positive attitude towards the flipped teaching model.

Suludere (2017) stated that, as the lecture content is shifted towards the learners' space outside the classroom, students can apply what they have grasped from the lectures recorded and produced by their teacher during class time; This study compared two groups of students with the same demographic features; The experimental group was taught using the flipped

learning model, compared to the control group conducted through the classic method. Findings suggest that the flipped model's outcomes aligned with the lectures' objectives than those of the traditional model, and it was evident through the learners' achievements.

Elian and Hamaidi (2018) conducted a study to explore the effect of the flipped classroom strategy on the academic achievement of fourth-grade students in the subject of science at the Directorate of Private Education in Amman, Jordan. The participants of this study were 44 male and female students chosen purposely during the second semester of the academic year 2015/2016. The researcher opted for an achievement test and divided the sample into two groups; An experimental group consisted of 22 students who were taught according to flipped classroom model, and a control group that consisted of 22 students were instructed using the traditional method. The data analysis results showed that There were statistically significant differences in the Means on the achievement test attributed to the instructional approach.

Adila (2018) reported that the way research methodology lectures are being presented could affect the MA and BA learners' research skills; this study was designed to investigate the student's attitude towards research methodology as a module. Findings show that tutoring research methodology should not be restricted to the theoretical representation of lectures; instead, it is imperative to engage the learner in the learning procedure through practice.

Farrah and Qawasmeh (2018) conducted a study in Palestine to investigate the English major student's attitudes towards the flipped classroom. A mixed-method approach was selected by the researchers; a questionnaire was administered to students to elicit their attitudes towards the model, and an interview was used to reveal the general attitudes of the students towards the difficulties and the solutions. The study encompassed 150 pre-service teachers. The findings revealed that the flipped classroom improved learners' autonomy and self-

direction. Furthermore, the participants viewed the approach as motivating, exciting, and engaging. Lastly, the researchers offered some recommendations for the inclusion of the flipped classroom to prosper a better learning environment for learners.

Benzert (2018) pointed out that the flipped classroom was not applied as in its pertinent literature to a certain extent, and that inverting a classroom promoted concept comprehension and increased students' engagement. The researcher adopted a mixed-method approach in this study; an observation, an experiment, and a students' questionnaire were used to collect data. The findings provided an insight into the possibility of differentiating teaching within a flipped classroom arrangement.

Boudiaf (2018) carried out a study to investigate the effect of the flipped learning model on EFL students' speaking skills and to elicit their attitude towards this approach. Participants of this study were a group of first-year EFL students. The researcher opted for a mixed-method approach for collecting data; two data collection tools were used, a semi-structured questionnaire and classroom observation. Findings showed that students' speaking skills had improved due to the use of the beforementioned approach. Moreover, Findings also illustrated that students reacted positively towards this strategy.

Muhlisoh (2019) conducted a study to investigate students' perception of the flipped classroom model with the utilisation of E-learning. The researcher opted for the Top-Down perception theory. Moreover, this study involved 42 sophomore English majors of Advanced Writing C Class. Data for this study was gathered through a questionnaire. The findings revealed that the theory-based flipped learning treatment motivated students, ameliorated their knowledge, improved their writing, and increased students' engagement with the presented tasks. However, the researcher also noted that some students underperformed during pre-class and in-class tasks by demonstrating a lack of motivation and passive participation. The

researcher assumed that this case was due to students' unfamiliarity with the flipped learning as it was only implemented in the half-semester. In general, the students benefited from the flipped approach.

Shahani, Chalak, and Tabrizi (2020) conducted a study to explore the Iranian EFL learners' attitude towards the flipped teaching model. The participants were 40 female intermediate EFL students, with age ranged from 19 to 29. They were selected through convenience sampling at the training department of the National Iranian Oil Company (NIOC) in Khuzestan, Iran; The participants were divided into two groups, based on the Oxford Quick Placement Test. A questionnaire was distributed to students. The results of frequency analysis revealed that the participants reacted positively towards the flipped model, and they stated that it was beneficial for them in a variety of ways.

Andujar, Salaberri-Ramiro, and Martínez (2020) carried out a study to explore learners' perception and technological acceptance of the integration of the flipped learning model in EFL classes. The researchers opted for a quantitative approach to collect, analyse and interpret data. The results yielded a positive attitude toward flipped learning. Furthermore, participants stressed the importance of the criteria upon which video contents are designed. The researchers concluded by a call for further research to amend some of the difficulties that students encountered during this study.

Benderradji (2020) undertook a study to investigate English for tourism trainees' motivation and attitudes towards flipped classroom model. The researchers selected a mixed-method approach for data collection and interpretation; A classroom observation took place, and a questionnaire was distributed to trainees. The results unveiled that the shift to the flipped learning model allowed for implementing project-based learning and experiential learning.

Moreover, trainees showed appreciation towards the model by giving suggestions to develop the approach and solutions to their problems.

Dali Ali (2020) asserted that the integration of flipped classroom into grammar teaching had a key role in enhancing EFL learners' writing and that this model increased the opportunities for differentiated learning, classroom interaction and personalised feedback. The study was based on a mixed-method approach, it involving ten high school students at Bacha school; The students were selected to participate in that quasi-experimental study and to answer a semi-structured questionnaire administered by the researcher

In a study by Timechbache (2020) on EFL learners' attitude towards using the flipped classroom as a model to enhance their grammar learning at the University of Biskra. The participants of this study encompassed a sample selected from first-year students at the English department at the University of Mohamed Khider. The researcher adopted a descriptive study with a qualitative approach for data collection and analysis which are: A classroom observation, and a questionnaire distributed to students. Findings indicated that learners showed more appreciation towards the flipped model compared to the traditional grammar classroom.

From the previous review of the literature, one can recognize how implementing the flipped classroom model in the research methodology class can shift the repetitive aspects of the curriculum to outside the classroom, making room for more practice during sessions, which in return will ameliorate the learners' perception of the module.

Methodology

The researcher intends to use a mixed method design to collect data for the present study, For data collection tools, a questionnaire will be designed and administered to Master Two students at Mohamed Kheirder University, Biskra. to elicit their attitude towards the

research methodology as a subject and to check their opinion about integrating ICT and the flipped learning model in research methodology. The second data collection tool will be an interview with the teachers of research methodology to inquire about the subject and the instructional methods. Eventually, the findings will be presented and interpreted to answer the research questions.

Population and Sample

The population of this study will comprise teachers of Research methodology, and a randomly selected sample from Master Two students at the department of English at the university of Mohamed Kheider, Biskra. The reasoning for this choice is that they are at the phase of conducting research and writing a dissertation before the end of the second semester.

Structure of the Dissertation

This dissertation is composed of an independent variable which is flipped learning model, and a dependent variable, which is research methodology. This dissertation's overall structure is two main parts: a theoretical part and a practical part. Therefore, the theoretical part covered the literature review about the two variables. The practical part represented the fieldwork of this study. Thus, Chapter one present a theoretical background about Information and Technology instruction, defining its main branches. It also narrows the scope of their relationship to the learners' skill set, teachers' styles, and benefits when integrated. Finally, the chapter defines the flipped learning model, provides a theoretical background of this approach, and discusses how such implementation can allow learners to gain more practice time during classes. Whereas chapter two dealt with a theoretical review of research methodology in accordance with its definitions and its significance to MA students. It narrows later to focus on research skills and researchers' competency. Afterward, it discusses the main steps of conducting research and the challenges that come with it. Regarding chapter three, it is mainly

devoted to the practical part. It aims at discussing sampling and data collection methods, data analysis, and findings' interpretations.

Chapter One:

The Flipped Learning Model

Introduction

The changes that the world witnessed in light of the technological advancements made recently captured the attention of educators as to how they can make use of these innovations to ameliorate learning/teaching. As a result, novel teaching methods have emerged in the educational scene, including the "inverted classroom" or "flipped learning". The purpose of this chapter is to present the historical background of Information, Communication, and Technology in the language instructional context. Furthermore, it narrows down the scope to establish the theoretical foundation of flipped learning, define the approach, and point out some of its advantages, as well as highlight some of its pitfalls. Finally, the chapter makes a comparison between the traditional and flipped learning environments.

1. Theoretical Background of ICT in Education

the intellectual and psychological development of individuals are two primary objectives of education. The learning environment and instructional materials should be structured in a way that encourages teacher-student interaction, motivation, and engagement with the concepts being learned. Nowadays, technology is evolving rapidly and consistently influencing every domain of human lives, including education.

Information, Technology, and Communication (ICT) refers to the use of digital technology to enable individuals and institutions to use, exchange, and get access to information anywhere, any time. UNESCO (2018) stated that the success of integrating ICT into pedagogy depends on the teaching staff's ability to organize learning in new ways, incorporate Technology effectively in the teaching process, promote a socially engaged learning environment, and encourage collaborative and cooperative learning. ICT expands the learning process beyond the classroom, as students are able to access the various instructional materials at any time and from anywhere. This latter also helps to overcome time and space limitations, foster teacher-student interaction, allow students to balance their studies with other

activities and commitments and transform the learning environment from a teacher-centered into a student-centered environment (Sánchez & Alemán, 2011). Moreover, teaching materials are no longer limited to the printed form of content, as new ways of transmitting knowledge have emerged into the educational setting, including teacher-made online videos, E-lectures, presentations, slides, podcasts, and flashcards. In short, ICT offers numerous tools that can improve the quality of education. As well as promote higher-order thinking skills and student-centeredness.

1.1. Computer-Assisted Language Learning

The use of computers in the language teaching context dates back to the 1960s. Initially, it was exclusive to universities. The development of project PLATO at the University of Illinois was regarded as a landmark to the development of CALL (Marty, 1981). The widespread of Personal Computers (PC) within a broader audience in the 1970s resulted in a surge in CALL program development. Kumar and Sreehari (2011) defined Computer-Assisted language learning (CALL) as an interactive teaching approach that involves the use of computer technologies in order to help learners fulfill their learning needs. To sum up, CALL makes use of computer applications and the internet to ameliorate and facilitate the process of language learning; It is a broad and continuously developing field that can be employed as an aid to present, reinforce, and assess the content being learned.

1.2. Technology-Enhanced Language Learning

Since the debut of computers, a plethora of research was carried out to incorporate this invention into language teaching and learning. The difference between Technology Enhanced Language Learning (TELL) and CALL is that there is a shift of focus from the computer to technology, which emphasizes the media of communication provided by the computer, which is mostly unseen, rather than the computer itself (Bush & Roberts, 1997). TELL deals primarily with the influence of technology on foreign or L2 language teaching and learning. TELL refers

to the use of computers as a technological breakthrough to present multimedia to supplement the present teaching methods (Kranthi, 2017). The main objectives of CALL and TELL were to promote critical thinking, self-direction of learners, awareness of the learning process, and allow students to implement their own learning strategies.

1.3. Mobile-Assisted Language Learning

As a result of the rapid technological advancements made today in the department of telecommunication technologies, Mobile devices are significantly more sophisticated and capable compared to their predecessors in the past decades. Kukulska-Hulme and Traxler (2005) referred to mobile learning as the possibilities provided by compact, portable gadgets that can often fit in a pocket or in a person's palm, including smartphones, Portable Digital Assistants, laptops, and tablet PCs, which can be used to foster collaborative learning and communication among students. MALL is an interactive learning approach that takes language learning outside of the classroom into real-world situations. For instance, nowadays, people can find plenty of language teaching applications such as Duolingo, Memrise, LinguaLift, Babbel, LINGVIST, which all can be downloaded and used through their smartphones with relative ease.

1.4. E-Learning

The first attempts of E-learning can be traced back to 1924 when Ohio University professor Sidney Pressey created the Automatic Teacher; However, the term E-learning was coined and professionally used for the first time in 1999 by Elliot Masie (Tamm, 2019). Online learning sought to ameliorate the quality of learning by offering easy access to information and utilities and promoting distance interactions and collaboration via the internet and innovative multimedia technologies (The European Commission, 2001). Tamm (2020) defined E-learning as the acquisition of knowledge via digital gadgets and the internet. In light of the global pandemic of COVID-19, governments were forced to shut down all the educational institutions,

which meant that face-to-face instruction was no longer feasible. However, this did not suspend education altogether; educators transitioned from traditional teaching towards online learning. Numerous web-based learning platforms were used by universities and schools to substitute face-to-face instruction during the lockdown, including Microsoft Zoom, Google Meet, and Moodle. Soliman (2014) argued that E-learning offers various activities and services that could be used to complement face-to-face EFL classes and potentially improve students' language skills and autonomy. Nevertheless, this approach requires physical infrastructure, as several areas do not have access to the internet and computers (University of Chicago, 2020). One key advantage online tutoring has is that educational materials are provided through the internet, which means that learners can have access to them at any time and from any place in the world.

2. The Theoretical Framework of Flipped Learning

Despite the relatively quick and constant change of perspectives on when and where people learn, views about how people come to acquire their knowledge and skills, and how technology might influence the pedagogical setting are still attributed to learning theorists including Lev Vygotsky, Jean Piaget, Jerome Bruner, and John Dewey.

2.1. Constructivism

Constructivism is a learning theory that advocated that individuals are actively and constantly constructing their own knowledge. Vygotsky (1978) stated that the learning process occurs when students interact with their peers or teachers to solve a problem that is beyond their skillset within the zone of proximal development. On the other hand, Piaget's theory of constructivism (1964) asserted that people construct their understandings based on experience; these experiences create schemas in the individual's brain. Furthermore, Schemas are altered, enhanced, and developed through assimilation and accommodation (as cited in Eppard & Rochdi, 2017). In flipped classrooms, students are actively engaged in the learning process as they are "constructing" understandings about the content learned outside of the classroom

through videos, and once they are inside of the classroom, they get the opportunity to check, refine, and amend their comprehension either through collaborating with their peers or with the help of their teachers.

2.2. Active Learning Theories

According to Prince (2004) active learning is distinct from traditional learning, where students depend on the information transmitted by their teacher. In other words, Active learning is a pedagogical approach that entails students' engagement with the content being presented inside the classroom through problem-solving, interaction with peers, and application of concepts. Thus, the learners' role shifts from being a passive recipient of knowledge into an active participant; however, the active learning method does not dismiss the guidance of the teacher. Students' active participation in the learning procedure is a crucial element of flipped learning (Bishop & Verleger, 2013).

2.3. Bloom's Taxonomy

Bloom's taxonomy was introduced in 1956 by Benjamin Bloom in collaboration with other educators. They identified three domains of educational learning; cognitive skills, affective/emotional areas, and psychomotor/physical skills (Bloom et al., 1956). Initially, the cognitive domain comprised six categories which were knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom et al., 1956). According to Krathwohl (2002) "The categories were ordered from simple to complex and from concrete to abstract.". Bloom's taxonomy is a hierarchical classification of cognitive skills and learning objectives. It is often depicted as a pyramid to illustrate that higher-level cognitive abilities are influenced by the knowledge obtained at lower levels of the framework.

This framework was revised by Lorin Anderson and David Krathwohl in 2001. The major distinctions between "the original bloom's taxonomy" (Krathwohl, 2002) and the revised

one were the replacement of "Synthesis" with "Creation" and the alteration of the order six categories of the cognitive domain as "Creation" became at the top of bloom's taxonomy because it was viewed as the most complex cognitive activity.

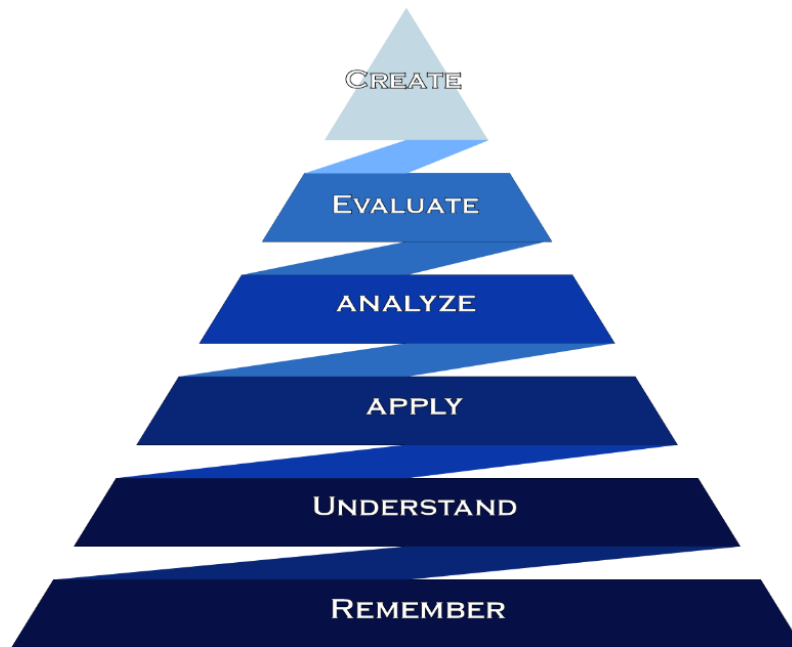


Figure 1: Bloom's Taxonomy (adapted from Bergmann & Sams, 2014)

The hierarchical representation of bloom's taxonomy denotes that class time should be allocated accordingly. In traditional learning settings, a significant portion of the session is assigned to lower-order skills as learners are being introduced to new information by the teacher, and if only the class time permits, students can move towards the application of what they have learned, which involves higher-order thinking skills (Bergmann & Sams, 2014). According to Bergmann and Sams (2014) flipped learning allows students to achieve higher-order skills inside the classroom; they argued that teacher-made instructional videos are the optimum method to achieve the learning objectives in accordance with remembering and understanding. Moving the lower-order thinking skills outside of the classroom allows students to engage in higher-order activities that involve more complex logical reasoning under the supervision of their teacher.

2.4. Mastery Learning

The concept of mastery learning was popularized during the 1960s by Benjamin Samuel Bloom, but its introduction can be traced back to the 1920s; It is an instructional model in which students must achieve a predetermined degree of proficiency in a particular concept before they proceed to the next one. Bloom (1968) argued that the majority of learners could master any subject given that they are offered an adequate amount of time and guidance. According to Bergmann and Sams (2012) flipped mastery learning provides instant and continuous feedback, as well as opportunities for differentiated, personalized, and student-centered instruction. In this model, students are offered multiple chances to reformulate and amend their understandings of the subject in question until they master it. The flipped classroom approach frees class time through shifting direct instruction towards the individuals learning space; this shift allows for differentiated and active learning to take place inside the classroom. Furthermore, instead of formative and summative assessment, which would inform students how well they have performed by the end of the learning process, students get the chance to receive constant feedback from their teacher during the learning process. Consequently, students are able to proceed with their learning or, if necessary, rectify their misconceptions and misunderstandings.

3. The Flipped Learning Model

3.1. An overview of Flipped Learning

The flipped learning model is a trendy instructional approach that is designed to enhance the learning experience of 21st-century students through prioritizing analysis, creation, and application of concepts during class time, whereas direct instruction is shifted towards the learners' space. Therefore, Educational materials are often delivered via videos outside of the classroom.

3.2. Defining Flipped Learning

In a flipped learning environment, the transmission of knowledge (lessons) to students occurs outside of the classroom in the form of video recordings, video screen captures, podcasts, or other electronic formats, yet the activities such as assignments are moved to inside the classroom. Flipped Learning Network (FLN) (2014) defined flipped learning as a pedagogical approach that moves direct instruction from the group learning space to the individual space. Therefore, the group learning space is transformed into an interactive and dynamic learning environment where learners can apply concepts and creatively engage with the content of the subject at hand.

It is also important to note that the notion of inverted learning is not new. The researchers who are often attributed with being the first to describe flipped learning are Lage, Platt, and Treglia, who published an article in 2000 under the title of "*Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment*". Lage, Platt, and Treglia (2000) stated that "Inverting the classroom means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa." (p, 32). However, the concept of "inverted classroom" did not gain popularity in 2000, because of the technological limitations at that period of time (Bergmann & Sams, 2012). For instance, Multimedia platforms such as YouTube were not launched until 2005.

The flipped classroom reverses the traditional educational arrangement, as instructional content is often delivered online outside of the classroom. And moves activities that are recognized as homework into the classroom. Bishop and Verleger (2013) defined the inverted classroom as "an educational technique that consists of two parts: interactive group learning activities inside the classroom, and direct computer-based individual instruction outside the classroom.". Learners watch online videos prepared by their teachers, participate in online discussions, or carry out research about a particular element at home and engage with concepts

under the supervision of their teacher during class time (Abeysekera & Dawson, 2015). The flipped learning approach offers students the opportunity to delve deep into the program as they become more dynamic inside the classroom; hence the content of the lesson is reviewed before the session. Once students are inside the classroom, they are supposed to apply what they have grasped and check their understanding with the help of their teacher.

3.3. Key features of Flipped Learning

According to the leaders of Flipped Learning Network (2013) the terms flipped classroom and flipped learning cannot be used interchangeably. Because, flipping a classroom does not always result in flipped learning, for instance, teachers might be accustomed to the idea of assigning students to review instructional content outside of the classroom in traditional learning settings. In contrast, flipped learning allows educators to implement a variety of methodologies in their classrooms. FLN and Pearson's School Achievement Services (2013) identified the key pillars or features of flipped learning, which comprised, Flexible Environment, Learning Culture, Intentional Content, and Professional Educator.

3.3.1. Flexible Environment

The physical arrangement of the flipped classroom is flexible to promote interaction and reflection. Thus, educators rearrange their classroom environment and in-class time to accommodate for the different learning styles (Individual, Role-play, Practice, Peer work, and Group work). Furthermore, Educators who adopt the flipped learning approach are flexible in their expectations of student learning timeline and assessment methods; Teachers measure students' comprehension in a meaningful manner through designing a variety of assessment tools (FLN, 2013).

3.3.2. Learning Culture

In the flipped learning model, there is a shift from a non-humanistic teacher-centered approach to a humanistic learner-centered approach. As a result, in-class time is devoted to

delving deep into the instructional material and creating rich opportunities for learning. Consequently, it enables teachers to ensure learners' comprehension of the lesson through maximizing the use of face-to-face interaction (FLN, 2013).

3.3.3. Intentional Content

In flipped learning, teachers are responsible for creating or choosing relevant instructional materials for their students. Also, they decide which materials should be taught directly through lectures and what content the learners need to explore individually outside of the classroom. In other words, Teachers are constantly thinking about how they can adopt flipped learning model effectively to allow their students to gain a more accurate comprehension of the concepts being presented. In short, Educators utilize intentional content to free up in-class time so that they can make use of a variety of instructional strategies like active learning, problem-solving techniques, peer instruction, and collaborative learning (FLN, 2013).

3.3.4. Professional Educators

The role of professional teachers becomes more demanding and of higher importance in flipped learning compared to traditional methods. Because, Teachers are constantly monitoring the performance of their learners inside the classroom and providing them with instant feedback to ensure that no learner is left behind. Moreover, Professional educators decide the manner and the time of transitioning instruction from the group learning space to the individual space, which as a result enable them to optimize face-to-face interaction among students, as well as teacher-student interaction (FLN, 2013).

3.4. Making Videos for Flipped Classrooms

Teachers can make use of screen capture software to create video lessons for their students. These pieces of software allow teachers to record what they are doing on their computers along with their commentary on what is happening on the screen (Bergmann &

Sams, 2012; Wolff & Chan, 2016). An example of these software would be TechSmith's Camtasia Studio which comprises a full toolbox for capturing and editing videos. Later, teachers can edit and upload these recordings to streaming platforms such as YouTube, Vimeo, or Dailymotion. Otherwise, teachers can use cloud storage services such as MEGA or Google Drive to create a video library. Eventually, all the teacher has to do, is share the content with their student in order to allow them to view/download the lectures.

3.5. Advantages of Flipped Learning

A plethora of studies have been carried out on the subject of flipped learning and its efficacy as a teaching approach in a variety of disciplines. Researchers have reported a variety of benefits that the flipped learning model offer over traditional instructional methods, some of these benefits are mentioned under this section.

3.5.1. Flipping Classes Promotes Self-paced Learning

In traditional learning environments, the pace at which lessons are carried out is set by the teacher; Teachers are obliged to deliver the whole curriculum within a predetermined time frame, which in return limits students' reactions during sessions since interrupting the flow of the lesson through requests of clarification or questions, in general, would slow down the pace of the lesson. By contrast, in the flipped learning contexts, in-class time is freed via shifting direct instruction outside of class time. Thus, students are allowed to explore the content of the lecture outside the classroom via video recordings; Delivering the lessons in such a manner allows students to rewind and pause the part of the lesson that they are struggling with as many times as they want. Eventually, students can build a conceptual understanding of the video before entering the classroom, and in case they fail to comprehend a particular concept, they get the chance to ask their teacher for clarification during class time (Bergmann & Sams, 2014).

3.5.2. Flipping Fosters Stronger Teacher-student Relationships

The freed-up in-class time creates opportunities for communication between the teachers and their students. Bergmann and Sams (2014) emphasized the importance of the teacher-student relationship; they stated that "The connections made with students are at the heart of great teaching.". The shift to flipped learning environments maximizes one-on-one time. In other words, teachers spend more time with their learners, offering feedback, remedial support, and engaging in discussions.

3.5.3. Flipping Increases Students' Engagement

The transition of instruction from the classroom to the individuals' learning space opens possibilities for students to have more thorough discussions with their teacher (Bergmann & Sams, 2012). Therefore, students are able to explore the lesson more in-depth, collaborate with their peers, suggest adjustments to the content of the videos, and propose various applications of the concepts within the video.

3.5.4. Flipped Learning Maximizes Practice Time

In traditional learning settings, a bulk of the time is devoted to delivering and explaining the content to students. As a result, students often do not get the opportunity to practice what they have learned under the supervision of their teacher. Instead, they are assigned with homework to check their understanding. On the contrary, the flipped learning model emphasises the importance of promoting higher-order thinking skills within the learning environment (classroom), Since lower-order thinking skills, namely "Remember" and "Understand" are shifted towards out-of-class time (Bergmann & Sams, 2014; Wolff & Chan, 2016). This illustrates that in-class time is no longer allotted for direct instruction, and teacher can take advantage of the freed class time to promote higher-order cognitive, which allow students to master the newly learned concepts/skills.

3.5.5. An Assistant for Busy Students and Teachers

The flipped classroom approach enables teachers with busy schedules to prerecord lessons and deliver them to students; this ensures that students are able to carry on with their studies in case the teacher is absent (Bergmann & Sams, 2012). For instance, teachers at the level of the university have to attend to multiple commitments like seminars, conventions, or even carry out research, thus providing the lessons to students beforehand guarantees the flow of the curriculum. Moreover, Students at higher level education also have responsibilities that can potentially impact their attendance; However, providing lessons in the form of recordings permits access to educational content at any time.

3.5.6. Flipped Learning Aids Passive Students

The flipped learning model allows educators to walk around and offer support and guidance for learners who require the most assistance, as opposed to traditional learning contexts where high-achieving students are more dynamic, asking questions and interacting with their teacher, while other students who feel shy are passive and listening to these discussions (Bergmann & Sams, 2012).

3.6. Challenges of Flipped Learning

Researchers who carried out studies about the topic of flipped learning recorded a number of pitfalls that arose with the transition from the traditional teaching approach to this novel method. First, Video production constituted an extra workload that teachers have to deal with. Moreover, the process of making videos for students is time-consuming and one that requires both knowledge and know-how in the IT department (Teacher's familiarity with computer software and video editing) (Aghaei et al., 2019). Thus, this approach requires a reliable technological infrastructure; for instance, uploading video files to the web requires computers and a stable internet connection. Likewise, Students need technology gadgets such as smartphones, tablets, laptops to be able to download and view the content of the videos.

Delivering content online meant an extra load for students outside of the classroom, As revealed by the study of Linga and Wang (2014), who reported that a number of students reacted negatively to the added out-of-class tasks. Additionally, a lack of teacher-student interaction inside the classroom can make students feel abandoned, as they have to grasp and make sense of the new content. (Talbert, 2012).

4. Traditional Learning Vs. Flipped Learning

A traditional classroom can be depicted as a teacher standing in front of the blackboard, presenting and explaining the content of the lessons to students who are passively listening, taking notes, and reacting on-demand. However, researchers argue that the structure of the traditional classroom underwent many changes due to the introduction of the student-centered teaching approach. Thus, it is necessary to highlight the major distinctions between traditional learning before and after the emergence of learner-centered teaching approaches.

Prior to the emergence of learner-centered instruction approaches, the teacher-centered approach prevailed, the teacher was regarded as the highest authority inside the classroom; the implication is that the teacher knows everything about the subject in question and that they are in charge of the classroom in terms of class time management, method of evaluation, and students' interaction. In this approach, the learners are passive recipients of information, while the teacher is viewed as the provider of the beforementioned knowledge, as well as an assessor for the learners' performance (Huba & Freed, 2000). Furthermore, Huba and Freed (2000) stated that the emphasis of teacher-centered approaches was on teaching and knowledge acquisition rather than learning itself.

With the emergence of learner-centered instruction methods, learners became in charge of their own learning, as they are actively constructing their knowledge through cooperation, collaboration, critical thinking, logical reasoning, and problem-solving (Vygotsky, 1978;

Piaget, 1964). Moreover, the emphasis of learner-centered learning approaches was on exchanging knowledge and making use of it through solving real-world problems. Thus, the role of the teacher shifts from being the highest authority inside the classroom to a facilitator of knowledge and a guide to students. Furthermore, Teachers and their students are learning together, Because the emphasis of this approach is to give the students an opportunity to learn from their own errors and mistake, as well as to generate thought-provoking questions. Consequently, learners are evaluated to promote and remedy their perceptions; Assessment in such a learning environment comprised research papers, role-play, portfolios, and projects (Huba & Freed, 2000).

The element of time is critical when it comes to teaching and learning. Bergmann and Sams (2012) made a comparison between how time is partitioned in a traditional and a flipped classroom (Table 1). Even though the traditional classroom is student-centered, which entails student active engagement in the learning process, time for interaction is viewed to be limited due to the fact that the bulk of the class time is devoted to direct instruction.

According to Bergmann and Sams (2012), the structure of class time is altered in a flipped classroom compared to a traditional one. The first minutes of the lesson or lecture are dedicated to asking questions about the content of the videos, the reasoning behind this phase is to ensure students' accurate comprehension of the information and rectify possible misinterpretations. And rest of the class time is allotted to applying the learned concepts under the supervision of their teacher. As a result of this freed class time, teachers can maximize face-to-face interaction with their learners, as well as form a stronger relationship between the learners and their teacher, which in return will ameliorate their attitude towards learning and engage their curiosity (Bergmann & Sams, 2014).

Traditional classroom		Flipped classroom	
Activity	Time	Activity	Time
Warm-up activity	5 min.	Warm-up activity	5 min.
Go over previous night's homework	20 min.	Q&A time on video	10 min.
Lecture new content	30 to 45 min.	Guided and independent practice and/or lab activity	75 min.
Guided and independent practice and/or lab activity	20 to 35 min.		

Table 1: Comparison of Class Time in Traditional versus Flipped Classrooms

(Bergmann & Sams, 2012, p.15)

The role of teachers and learners is another aspect that is influenced by the flipped classroom model. Traditionally the content of the lecture is delivered by the teacher through printed handouts or textbooks. However, this is not the case in flipped classrooms, as teachers are supposed to provide well-structured video lessons to their learners before class time (See figure 2). Carnevale (n.d.) described the role of the teacher in flipped classrooms as a facilitator who sets up the content, maps out homework, and provides a welcoming learning space that students can interact within. On the other end, learners are responsible for reviewing the provided content outside of class time, take notes, and generate questions about the included elements (Bergmann & Sams, 2014). Therefore, Students construct a broad understanding of the topic, which will be later deepened through collaborating with their peers and teacher once they arrive at the classroom.

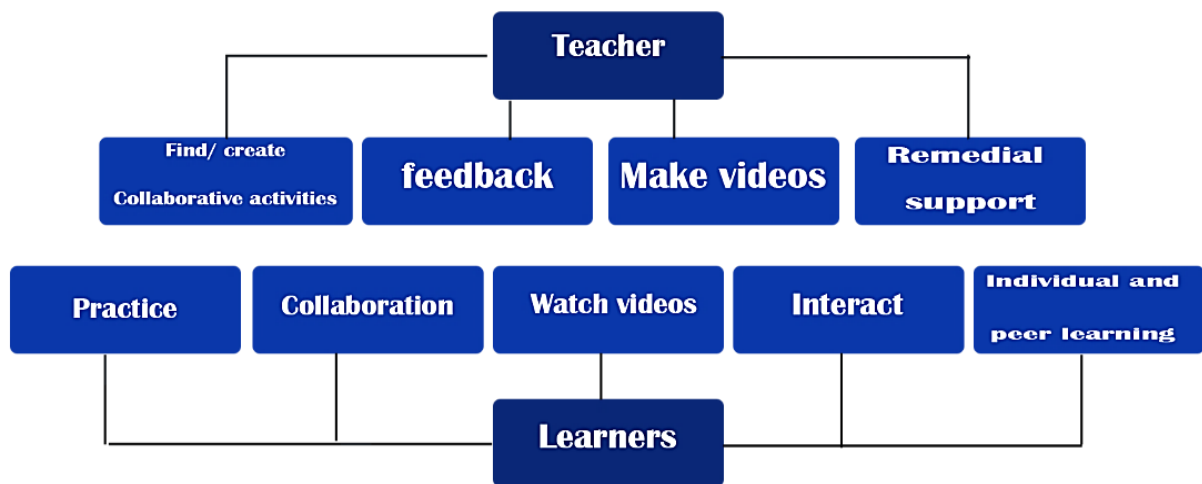


Figure 2: Teacher's and learner's roles in Flipped Classrooms (adapted from Bergmann & Sams, 2014)

Conclusion

Flipped learning is a novel learning strategy that aims to meet the needs and expectations of 21st-century learners and promote the development of higher-order cognitive skills and mastery learning. Flipping a classroom alters the conventional structure of learning and frees in-class time via moving the basic cognitive tasks towards the individuals' space and time. Therefore, allowing teachers to spend more one-on-one time with their learners, maximize practice time, and ameliorate teacher-student interaction. Moreover, the flipped model promotes students' self-direction, autonomy, and collaborative learning. This chapter established the theoretical foundation of the approach, its definition, along with the merits of implementing this method and some of the challenges that researchers encountered with the implementation of this strategy. Lastly, it compared the traditional to flipped learning models.

Chapter Two:
Research Methodology

Introduction

For decades scholars sought to ameliorate the living standards for individuals through carrying out research in various disciplines. In their studies, researchers follow scientific procedures to formulate hypotheses, gather data about a specific phenomenon, and then analyse the gathered data to draw conclusions or make generalisations. The purpose of this chapter is to define research, its objectives, and the different stages of the research process. Later, it narrows down the scope to identify the different types of research, as well as clarify the difference between research methods and research methodology. Finally, the chapter addresses the importance of learning research methodology.

1. Overview of Research

In a broad sense, research is a systematic inquiry to draw new insights into a particular phenomenon, explore it from various perspectives, establish facts, or assess already existing theories. Nevertheless, the definition of research depends on a number of factors, including the nature of the study, its objectives, and the area of research.

2. Defining Research

The term research is formed by the prefix "Re", which means to do something over and over again, and the verb search, which means to probe, evaluate existing knowledge, or to explore a certain field of study through applying scientific methods and methodologies (Singh, 2006). According to Meriem-Webster Online dictionary, Research is a formal inquiry that is intended to assess and investigate currently established notions and theories in order to check their efficacy in light of the emergence of novel conceptions, which entails revising the old perception or putting the newly discovered theories into practice. Rusk stated that research attempts to answer questions that have not been answered before through using precise scientific procedures in an attempt to uncover facts. He also asserted that researchers should

accept the findings of their studies, even if they do not meet their expectations (as cited in Singh, 2006). Thus, the researcher moves from what is known at present to unknown aspects which have hitherto not been discovered (Kothari, 2004).

Clifford Woody (1927), in an article in *the Journal of Social Studies Research*, prescribed the phases involved in the process of research which encompassed, identifying and redefining problems, forming hypotheses or proposed solutions; gathering, organising, and assessing evidence; generating deductions and drawing conclusions; and finally, rigorously testing the findings to check if they meet the formed hypothesis (as cited in Kothari, 2004). Other social sciences scholars have defined research in different manners. For instance, P.M Cook emphasised that research is both an exhaustive and honest process, in which researchers invest a considerable amount of time and effort into their studies in order to reach findings that are both objective and free from bias; The researcher investigates and evaluates the existing literature that falls under the umbrella of the research problem through critical thinking and the scientific method. Lastly, the findings of the study should contribute novel or refine already established facts and theories (as cited in Singh, 2006).

Lundberg (1942) investigated the relationship between the social scientific method and the method used by individuals in their ordinary lives. Despite the fact that both methods go through the same process of observing, categorising, and analysing data, the findings derived from the scientific methods differ from everyday generalisations, as the scientific approach produces more formal, thorough, and verifiable conclusions.

Singh (2006) synthesised the following common characteristics from the established definitions of the concept of research:

- It derives new facts and data from primary and secondary sources.
- It is a precise, methodical, and exact inquiry.

- Research is a time-consuming and tedious endeavour.
- It utilises valid data collection and analysis instruments.
- It emphasises the identification of universal principles.
- It promotes objectivity and neutrality in delivering its results
- Subjective views and inclinations are excluded by the researcher.
- Its findings are reported with caution.

The variation in the definitions of research stems from the researchers' objectives, beliefs, and the area of study within which it is situated. For instance, research in social sciences and humanities tends to be unrestricted and flexible in terms of drawing conclusions and making generalisations. Whereas, on exact science studies, findings are arrived at with more precision and accuracy.

3. Research Objectives

In light of the fast changes taking place in human lives, researchers carry out studies in different fields in order to uncover, explain, and address the issues that arise with the introduction of new theories and technologies. In this respect, researchers conduct studies in order to solve unanswered questions, explore applications of recent findings, examine causes of natural phenomenon, and assess novel facts and theories. Kothari (2004) stated that "The purpose of research is to discover answers to questions through the application of scientific procedures." (p, 2). However, he maintained that each research has its unique purpose. Additionally, He asserted that researchers utilise valid data collecting and analysis devices in order to unearth knowledge and facts which has not been uncovered yet. Later, Kothari (2004) summarised the objectives of research into these four broad groupings:

- To gain familiarity with a phenomenon or to achieve new insights into it (Exploratory or Formulative studies);

- To portray the characteristics of a particular individual, situation or a group (Descriptive studies) accurately;
- To determine the frequency with which something occurs or with which it is associated with something else (Diagnostic studies);
- To test a hypothesis of a causal relationship between variables (Hypothesis-testing studies) (p, 2).

In essence, Individuals carry out research for various reasons, including examining the cause-effect relationships between different variables, observe and explain behaviours, processes, and phenomena. As well as create and develop new instruments and concepts with the intent of solving social and scientific problems.

4. The Stages of the Research Process

Scientific research is a methodical approach that emphasises objectivity, data gathering, analysis, and drawing conclusions based on those analyses. Conducting research entails a series of interconnected actions. Despite the fact that these phases are interrelated, the researcher is not bound to follow the predefined sequence of these phases, as these procedures frequently overlap. The steps are identified as follows:

4.1. Selecting a Research Problem

Identifying the research area is regarded as the first and most exhausting step in the journey of carrying out one's study. Before proceeding to do research, the researcher must first specify the area that he/she intends to investigate. According to Singh (2006) formulating a research problem "is like the identification of a destination before undertaking a journey. In the absence of a destination, it is impossible to identify the shortest – or indeed any – route." (p,57). In other words, a well-defined research problem will pave the way for the researcher to reach his desired objective and vice-versa.

4.1.1. Criteria for Selecting a Research Problem

At the outset, the process of formulating a research problem might seem like an easy task to tackle, but in practice, it is an activity that requires using a variety of strategies to ensure that the problem meets certain characteristics. Good and Scates suggested the following criteria for selecting a research problem:

- **Originality and avoidance of repetition:** The issue of originality has to do with the novelty of the study. Thus, it is the researcher's duty to employ new insights during the process of selecting the research problem in order to contribute to the development and growth of knowledge in the field of study.
- **Feasibility:** When selecting a research problem, the researcher should take into consideration the offered time frame within which he/she is supposed to solve it, as well as his own financial resources.
- **Interest and motivation:** the researcher should specify the area of interest that he/she would like to investigate. Thus, the research problem must be in accordance with the researcher's objectives, and it must be intriguing for him/her.
- **Administrative support:** researchers often require administrative assistance; It is customary for the thesis to be supervised by a faculty adviser whose area of expertise aligns with the topic of the research.
- **Contribution to the field:** Scientific research has a pressing commitment to serve communities and humankind in diverse manners. Therefore, the findings of the investigation should add a significant value or refine the existing knowledge in a given field of study.

4.1.2. Sources of the Research Problem

Singh (2006) summarised the sources that researchers can inspect in order to identify a research problem; these sources comprise:

- Discussions with experts in the field of study or consulting experienced peers.
- The investigator's personal experiences in the field.
- The suggestions made in other researchers' reports.
- Intensive review of the literature to identify gaps in existing studies.
- Technological breakthroughs and pedagogical changes.

4.2. Review of the Literature

After selecting a research problem, the researcher must immerse himself with the topic under investigation through reviewing related literature to the problem. This stage educates the researcher about what has been covered in the past, what instruments were used, and the findings of previous works in the field.

According to Ridley (2013) Literature review is the process where the researchers link their research problems to previous studies and theories that fall within the area of their study; Researchers situate their studies within the sources they derive their knowledge from through establishing connections between their topics and existing works. John W. Best noted that this process consists of two phases; the initial phase of conducting a literature review is pinpointing the published materials that are relevant to the problem under investigation, which allow for establishing a theoretical basis upon which the study will be built. The second phase is incorporating this theoretical foundation into one's thesis or research paper. Furthermore, reviewing the literature is not a mere summary of previous work; it is rather a tedious activity that involves critical evaluation, analysis, and synthesis of theories (Singh, 2006).

4.2.1. Purpose of Literature Review

Surveying the existing literature in the study area is a very important phase in the research process, as it aids researchers in a variety of ways. Kumar (2012) argued that literature review aid researchers via expanding their own depth of knowledge. He later asserted that reviewing the literature:

- Aids researchers to integrate their findings into the existing works in their disciplines.
- Demonstrates how the new study contributes to the field of study.
- Provides a theoretical foundation for the study.
- Establishes connections between what is already known and the new topic.
- It helps in formulating research questions that require further research.
- Synthesises and critically evaluates previous studies in order to detect gaps of knowledge.

4.2.2. Sources of Literature Review

According to Singh (2006) there are a number of sources that researchers can survey in order to compose their literature review; these sources include:

- Peer-reviewed articles found in international journals.
- Abstracts of previous works.
- Online repositories that contain thesis and dissertations (e.g., Dspace).
- Books and chapters of books (in edited editions).
- Encyclopaedias (e.g., Encyclopaedia of social sciences).
- Government documents and databases.
- Interviews and conference papers.
- Periodicals, online articles, popular newspapers, and magazines.

From what has been stated above, one can realise that reviewing the literature is a crucial element in the research process. Even though it is viewed as a demanding task in terms of time and effort, if executed properly, it leads to rewarding outcomes.

4.3. Research Hypotheses and Questions Formulation

Formulating questions is another challenging aspect of conducting research. Since these questions have to achieve certain criteria, for instance, Research questions must be up-to-date in the sense that they address current issues, or questions that have been overlooked or unanswered in previous studies (Singh, 2006). Moreover, the researcher has to make sure that these questions are precise and narrow to an extent, because vague questions can be difficult, if not impossible to solve. Overall, research questions are the product of observing events or consulting and synthesising the literature.

On the other hand, research hypotheses are considered as predictions that can be examined using scientific methods; Hypotheses are educated and logical assumptions that provide a speculative understanding of the phenomena being assessed (Leedy, Ormrod, & Jonson, 2021). Kumar (2012) argued that "The importance of hypotheses lies in their ability to bring direction, specificity and focus to a research study." (p, 81). In other words, developing hypotheses allow researchers to narrow down the scope of their investigations into a strict number of probabilities, as well as aid them in determining which type data needs to be collected (quantitative or qualitative), and is required to solve the research problem. In short, constructing research hypotheses signifies that the researcher is sticking to scientific methodology, which raises the credibility and validity of one's findings.

4.4. Research Design

Research design is regarded as a roadmap to the achievement of the planned objectives of a given study. Creswell (2014) defined research designs as "types of inquiry within

qualitative, quantitative, and mixed methods approaches that provide specific direction for procedures in a research design." In his definition, Creswell mentioned three research approaches (qualitative, quantitative, and mixed-method approach) that differ from one another in terms of techniques and purposes of use. Essentially, Research design specifies the required instruments that the investigator is supposed to use (Theoretical, experimental, or numerical) to solve the problem in question. On the same premise, the design constitutes the foundation and the starting point of the entire study. However, it should be noted that research designs cannot be generalised since they are dependent on the variables of each study (Kothari, 2004).

4.5. Sample Design

Defining the research population is another critical aspect of the research process. The inquirer needs to specify the target population of the study. In general, A population refers to the full collection of subjects to be studied, whereas a sample is a sub-collection of elements that is drawn from the population. While it is possible to study the whole population using census inquiry, it is regarded as challenging, expensive, and time-consuming (Kothari, 2004). Thus, the researcher should designate a finite number of subjects to collect data from; Limiting the number of respondents makes the analysis process more manageable and increases the precision of the findings. Kothari (2004) identified two main approaches to selecting a sample, which encompassed probability and non-probability sampling.

- **Probability sampling methods:** simple random, systematic, stratified, and cluster sampling.
- **Non-probability sampling methods:** convenience, judgement, and quota sampling.

4.6. Data Collection and Analysis

Data collection refers to the process where researchers gather measurements, insights, and knowledge from the designated sample using validated scientific tools and instruments in

order to test the research hypotheses, make inferences and draw conclusions (Kothari, 2004). The researcher's choice of these measurement tools is influenced by the nature and objectives of the study. For instance, if the inquirer's aim is to measure the frequency of a particular behaviour or a phenomenon, then quantitative data is required; however, if the researcher's intent is to explore a phenomenon in-depth, then qualitative data is most appropriate for this purpose (Bhandari, 2020). Alternatively, researchers can opt for a mixed-method approach, which couples quantitative and qualitative methods. According to Kumar (2012) there are two main approaches to gathering data:

- **Primary sources:** offer first-hand insights and unique perspectives into the problem; they involve conducting surveys, observations, questionnaire, and interviews.
- **Secondary sources:** It refers to existing knowledge that hitherto not been extracted; it includes documentation such as government, personal, or service records, as well as census and previous investigations.

On the other hand, Data analysis refers to the process of transforming the gathered information from its initial raw state into meaningful inferences. Scientific research entails using validated methods to prove or disapprove the research hypotheses; The type of analysis required depends on the nature of the gathered data, as quantitative data requires statistical procedures, while qualitative data involves content analysis. The process can be executed manually or via computer software such as "SPSS" or "NVivo". In brief, analysing the gathered data clarifies the intricacies and leads to a better understanding of the research problem.

4.7. Writing the Research Report

The last step in the process of scientific inquiry is writing the research report. This report represents the findings of testing the research hypotheses, as well as provide information

about the sample, the used instruments, and the implemented methodology. Similar to the others steps of scientific research, composing the report is a systematic process that requires care, formality, and objectivity. In other words, the research report serves as a medium through which the researcher communicates his work to readers and fellow researchers in the field. Thus, failing or neglecting any phase of the scientific method will impact the overall quality of the investigation (Kumar, 2012).

5. Types of Research

Types of scientific research are categorised based upon a number of attributes, including the nature, objectives, and purposes of the study. Kumar (2012) proposed that types of research can be viewed from the following broad perspectives;

1. The applications of the findings of the research.
2. The objectives of the research.
3. The inquiry approach used in the study.

However, Kumar later pointed out that this classification is not strictly exclusive since studies categorised from an application standpoint can also be viewed from the perspectives of objectives and inquiry methods.

5.1. From the Viewpoint of Application of Findings

According to Kumar (2012) there are two main research types that fall under the application viewpoint of scientific research, which are pure (fundamental) and applied (action) research.

Young (1949) stated that Fundamental research is driven by the curiosity of the researcher; It is an inquiry for knowledge for the sake of expanding one's knowledge (as cited in Kothari, 2004). Bailey (2008) referred to pure research as an investigation that entails the development and testing of hypotheses and theories that are intellectually intriguing to the

researcher and, as a result, may have some societal use in the future. Thus, pure research investigates the causes and principles behind the occurrence of a particular phenomenon or behaviour, as well as develop, examine, verify, and refine research methods and instruments that constitute the body of research methodology (Kumar, 2012). On the other hand, applied research aims at using established theories and principles to solve practical problems and questions (Kothari, 2004). In other words, it is an inquiry that requires problem-solving oriented studies into a given phenomenon or research topic using empirical methodologies. Thus, the primary focus of applied research is to address pressing issues in a particular domain or community, whereas gaining knowledge is secondary.

In brief, applied and pure research are interrelated; hence theories proposed through fundamental research are often developed into applied studies. Moreover, applied research is viewed as an approach to validate the findings of basic research and synthesise innovative solutions to current issues.

5.2. From the Viewpoint of Research Objectives

When looking at scientific research from the perspective of its objectives, these studies can be categorised as descriptive, correlational, explanatory or exploratory (Kumar, 2012).

5.2.1. Descriptive Research

According to Kothari (2004) the main objective of descriptive studies is to describe the current state of a given community, behaviour, or phenomenon. In other terms, descriptive inquiries aim at providing a vivid and systematic description of the subject being studied through asking questions that are based on where, what, how, and when rather than asking about the causes of that phenomenon (why). Furthermore, a major characteristic of this approach is that the investigator has no influence over the research variables. Thus, researchers report only on what has occurred or what is occurring without interfering. The research

methods employed in this kind of studies are all types of survey methods, along with correlational and comparative approaches.

5.2.2. Correlational Research

correlational studies are simply the ones concerned with investigating the presence of a relationship/association or interrelation between two or more variables in a specific problem or context (Kumar, 2012). In this type of inquiry, the researcher examines two or more variables in the problem and attempts to understand and evaluate the statistical relationship between those variables without interfering with them. For instance, investigating the relationship between playing video games and the communicative competence of EFL learners is an example of correlative studies. Hence the researcher's aim is to check if there is a statistical relationship between the two variables and then conclude whether there is a positive, negative, or zero correlation among these aspects (McCombes, 2020). In sum, the purpose of correlative studies is to examine how different facets of a research problem impact one another in an analytical and critical manner.

5.2.3. Explanatory vs Exploratory Research

The main aim of explanatory studies is to explain why and how aspects of an event or phenomena are related (Kumar, 2012). Henceforth, the researcher's objective is to answer 'why' questions (De Vaus, 2001); this type of inquiry allows researchers to gain an in-depth understanding and new insights into the problem, as well as help in identifying its causes. On the other hand, Exploratory research aims at formulating research questions that have not been asked before or to investigate further aspects of the problem which has not been discovered in prior research. Moreover, this type of studies contributes to the testing and refinement of research instrument and procedures and aid researchers to determine the feasibility of conducting an investigation about their problem (Brown, 2006; Kumar, 2012).

5.3. From the Viewpoint of Inquiry Approaches

According to Kumar (2012) the third perspective that scientific research can be viewed from is categorised as inquiry modes; These modes are defined as the procedures and instruments implemented by the researcher in order to solve the investigation problem.

There are two common approaches to research, a structured and an unstructured approach; the former denotes that the objectives, design, sample, and questions of the inquiry are predefined. Whereas unstructured approaches allow for flexibility in all facets of the research procedure (Kumar, 2012).

Structured and unstructured research approaches are also known as qualitative and quantitative studies. On the one hand, quantitative studies are concerned with the phenomenon that has a numerical value (Kothari, 2004). Hence researchers employing the quantitative approach are interested in testing theories and hypotheses via mathematical and statistical procedures, with the aim of achieving logical and objective results. In general, findings of quantitative studies are displayed in the form of numbers, tables and graphs (Streefkerk, 2021).

On the other hand, Qualitative studies aim at interpreting phenomenon that cannot be expressed in terms of quantity. This type of inquiry is non-numerical in nature; therefore, its findings are often expressed in words. The researcher collects data through in-depth interviews, open-ended questions, word association, sentence and story completion tests (Kothari, 2004). Later, the gathered data is categorised and analysed through qualitative data analysis instruments such as grounded theory, discourse analyses, narrative analyses, and content analysis.

The third and most used inquiry mode is the mixed-method approach (triangulation) which combines both qualitative and quantitative techniques in order to recompense for their limitations and increase the validity of research findings (Biggam, 2011; Kumar, 2012).

6. Research Methods Vs. Research Methodology

Although, on the surface, the terms research methods and research methodology seem similar, each one of them has a unique definition.

Research methods refer to the techniques and instruments used by the researcher during the process of solving the problem (Kothari, 2004; Walliman, 2011); it encompasses the techniques used for determining statistical relationships between variables, as well as data collection, analysis, and interpretation approaches that the inquirer opted for in the planning phase of the inquiry. For instance, research methods include controlled experiments, case studies, interviews, and focus group. Research is undertaken at various levels and for different purposes, which entails selecting instruments and tools that are most compatible with the nature of one's study and its predetermined objectives. At its core, research methods focus on identifying what techniques did the researcher use to arrive at his findings.

On the flip side, research methodology refers to the systematic procedure employed in solving a particular research problem. Kothari (2004) defined research methodology as a discipline that studies the different steps involved in scientific inquires, explain the rationale and logic behind each phase, and illustrate how research is performed in accordance with scientific procedures. This is to say, methodology does not just encompass research methods, but also involves learning how to apply them to expand knowledge and generate valid findings. For instance, phenomenology, ethnography, and action research are some of the common methodologies. In short, methodology clarifies the rationale behind the study and presents the overall research plan that details how the study will be carried out (Howell, 2013).

Henceforth, research methodology has a broader scope than research methods, As the former is regarded as the body of knowledge that attempts to study the criteria upon which

scientific research is conducted, whereas research methods refer to the specific steps or process employed by the inquirer in answering the research questions.

7. Importance of Learning Research Methodology

Research methodology is regarded as the scientific study of methods and techniques involved in the process of answering research questions and generating new theories; It analyses the systematic manner in which scientific research is undertaken and how this last ensure the validity and credibility of the findings of the inquiry. Therefore, it is necessary for researchers to be familiar with methodologies in order to increase the quality of their works. On this note, Kothari (2004) asserted that

The study of research methodology gives the student the necessary training in gathering material and arranging or card-indexing them, participation in the field work when required, and also training in techniques for the collection of data appropriate to particular problems, in the use of statistics, questionnaires and controlled experimentation and in recording evidence, sorting it out and interpreting it (p, 10).

The quotation mentioned above, illustrates that learning research methodology does not just help students gain familiarity with the phases of conducting research and the methods of gathering, analysing, and interpreting data, but also promote decision-making and critical evaluation when gathering the required materials for answering the research questions. Moreover, one's awareness of methodology facilitates the process of shaping the outline of the study, and increases the researcher's confidence level about its findings. To sum up, studying research methodology enables learners to understand the logic behind each phase of the scientific inquiry and ensures the proper application of research methods.

Conclusion

On the whole, research methodology constitutes the theoretical foundation of research and analyses the logic behind the steps and procedures implemented to answer the research questions. Therefore, studying methodology educates students about the proper use of research methods and introduces them to the different approaches and types of research. Moreover, the awareness of the criteria of scientific research influences the reliability and quality of its findings; hence researcher must explain the rationale behind their decisions and analyses. Eventually, being familiar with research methodology allows learners and novice researchers to design a logical plan to solve the problem under investigation.

Chapter Three:

Analysis and Discussion of the Results

Introduction

The present study investigates the use of the flipped learning model as an approach to teaching research methodology. Hence, this chapter is devoted to the fieldwork; it clarifies the rationale behind the implemented methodology. Furthermore, it describes the research design, research approach, tools and instruments used to gather data, and sampling techniques. Eventually, the chapter presents the gathered and analysed data to test the validity of the research hypotheses to draw logical findings and interpretations.

1. Research Design

We opted for a descriptive design to answer the research questions. The inquiry's main objective was to assess the potentiality of using the flipped learning model in teaching research methodology. Henceforth, the present investigation utilised a mixed-method (Triangulation) approach for gathering data. Because the nature of the inquiry necessitates an in-depth understanding of the problem and its causes, Creswell (2014) stated that "This "mixing" or blending of data, it can be argued, provides a stronger understanding of the problem or question than either by itself." In other terms, researchers combine/mix qualitative and quantitative methods to counterbalance the weaknesses of both approaches, which eventually increases the credibility and validity of the findings and minimises biases in the data gathered and analysed.

2. Population and Sample

The population targeted by this study comprised master two students at the University of Mohammed Kheider Biskra. The reasoning behind selecting this particular population is that learners are required to write their own theses papers at this specific level; This task constitutes a real-world illustration of students' knowledge about methodology or lack thereof. In other

words, master's students are supposed to put what they have learned during the past years on the subject of research methodology into practice.

A random sampling approach was used to gather data from the students; using this technique allows for examining the problem from various perspectives and minimises bias in the findings. Eventually, thirty-three (33) master two students responded to the questionnaire.

Teachers who were invited to participate in the interview were selected based on the mere belief that their experience in the field of study, views, responses would aid in attaining the stated objectives of the present study.

3. Data Collection

Data collection tools employed to achieve defined objectives, test the research hypotheses and solve the research questions included a questionnaire administered to students to elicit students' attitudes towards research methodology and the concept of flipped learning. Furthermore, we interviewed the teachers of research methodology to inquire about the currently used teaching method/instruction, the main challenges associated with teaching research methodology, and their perception of the flipped instruction approach.

3.1. Students' Questionnaire

3.1.1. Description of the Students' Questionnaire

The questionnaire was designed for Master two EFL students (Applied linguistics major) at the University of Mohamed Khider – Biskra. We opted for a sample that contained (80) students amongst the population which comprised a total of (127) students. This questionnaire aims to elicit students' attitudes towards the module of research methodology, highlight some of the difficulties students have with this subject, and check students' perception of the concept of flipped learning.

The questionnaire was semi-structured (See Appendix A), and it was divided into three main sections that comprised open-ended and closed-ended questions; regarding the closed-ended questions, students were supposed to pick an answer based on a Likert scale or tick Yes/No. Whereas, Open-ended questions were used to allow students to provide justifications or explanations about their responses.

Section one: Background information

The first section of the questionnaire included two questions that aimed at collecting some basic information about the participants in the sample. The purpose of the first question was to identify the participants' age, while the second question was dedicated to determining the participants' gender. The purpose of this section is to provide a description of the sample.

Section two: Students' attitudes towards research methodology

The second section included eight main questions about research methodology. At first, the participants were asked about the importance of learning research methodology and why they think it is essential. Furthermore, we asked students about their attitudes towards learning research methodology. Also, the questionnaire addressed the importance of practice on this subject from students' perspectives. Moreover, responders were asked to name some of the difficulties pertaining to learning methodology. Finally, we asked students to describe the present instruction method.

Section three: Students' attitudes of the flipped learning model.

The present section consisted of seven main questions that varied from close-ended (Yes or No) and open-ended questions (for justifications). In the beginning, participants were asked to select an instructional approach that they think is ideal. Later, we asked responders about their attitudes towards the integration of ICT inside the classroom. Furthermore, we asked students about how they cope with difficulties related to research methodology. Finally,

the last question in this section aimed to elicit students' attitudes towards the concept of the flipped learning model.

3.1.2. Validity of Instruments

Prior to the actual administration of the students' questionnaire, it was sent to the supervisor and some teachers at the English department to get some feedback/suggestions concerning the items included within the questionnaire. Eventually, the supervisor proposed some valuable remarks and suggested piloting the questionnaire with some participants to evaluate its clarity in terms of content, functionality, delivery, level of difficulty, and the layout of items. Consequently, some questions that seemed repeated and ambiguous to the participants were excluded from the final version of the questionnaire.

3.1.3. Administration of the Questionnaire

The final version of the questionnaire was designed using Google forms; then, it was administered online to the target population via a Facebook group on May 25th 2021; Submitting the questionnaire online was the only option. Hence, Master two students were unavailable during the second semester.

3.1.4. Analysis of Students' Questionnaire

The questionnaire consisted of nineteen (17) multiple-choice questions, five of which were measured on a 5-point Likert scale. Furthermore, we asked participants to provide a brief justification about their responses to identify common answers amongst them. Later, after validating and piloting the questionnaire, it was delivered online to the targeted population, which comprised a total of (80) master two students. Eventually, thirty-three students answered the questionnaire.

Section one: Background information

This section aims to provide some background information about the participants of the study. Ergo, this portion of the questionnaire includes questions about the age and gender of the respondents.

Item 01: How old are you?

Age	Frequency	%
21-22	6	18
23-24	21	64
25-26	4	12
27-30	2	6
Total	33	100

Table 2: Participants' age.

As shown in this table, there are four age groups in our sample. Out of the total number of students in the sample, which is Thirty-three (33), the first rank comprised students who are aged from twenty-one and twenty-two years old, we have recorded six students fall under this age range (18%); However, the majority of respondents' ages vary from twenty-three to twenty-four years old, twenty-one students (64%) who are aged between twenty-three and twenty-four years old. Students who are aged from twenty-five to twenty-six constituted 12% of the total of the sample. Lastly, the range between twenty-seven and thirty comprised only two students (6%). This disparity among categories denotes a variety of capabilities and perspectives.

Item 02: What is your gender?

The second question is concerned with the gender of participants. As demonstrated in Figure 3, the majority of the respondents are females (82%), while male respondents constituted a mere (18%). This variance in percentages is due to the fact that more female students enroll in English as foreign language classes compared to male students who may prefer enrolling in other study majors.

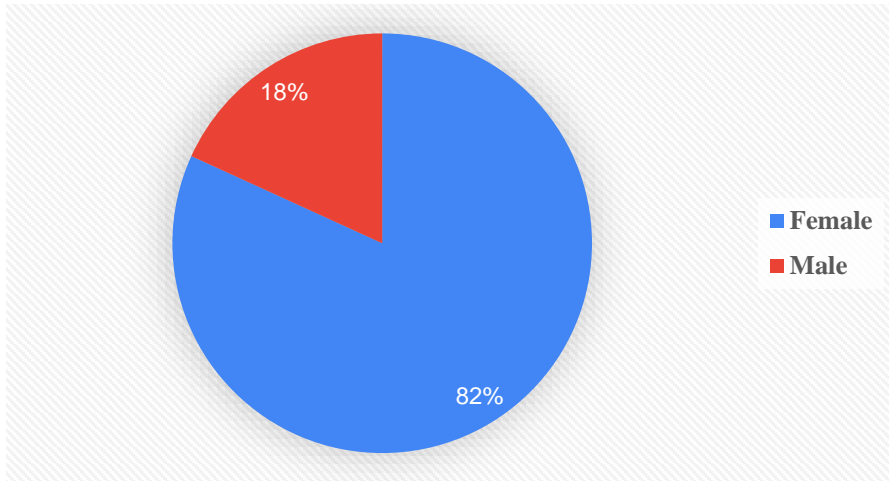


Figure 3: Participant's gender.

Section two: Students' attitudes towards learning research methodology.

Item 01: Do you consider research methodology as an essential subject in your academic journey? And why?

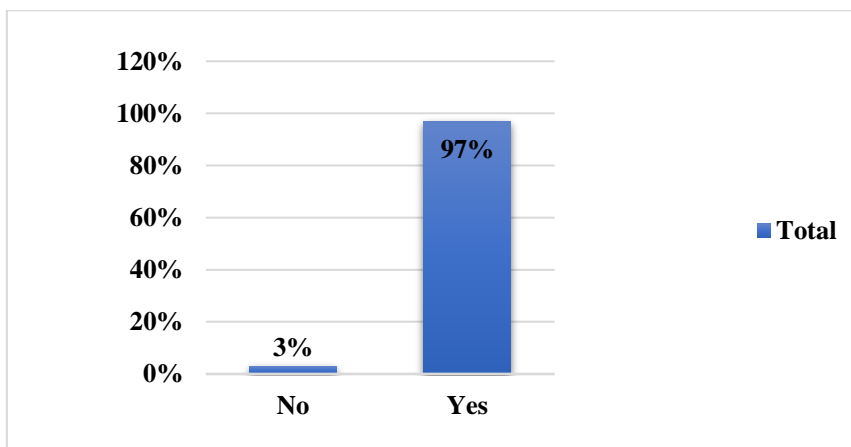


Figure 4: Students' awareness of the importance of methodology.

A glance at Figure 4 reveals that only one student responded negatively to this question, whereas the majority of the participants, which comprised 97% consider research methodology as an essential subject in their academic career. They argued that being aware of the aspects of research methodology paves the way for conducting various academic papers as it examines the different types, measurements, and procedures of scientific research. In general,

methodology ensures the validity of the study and raises its credibility. In a word, students' responses to this particular question elucidate that they are aware of the perks of knowing about research methodology.

Item 02: How often do you participate in your research methodology class?

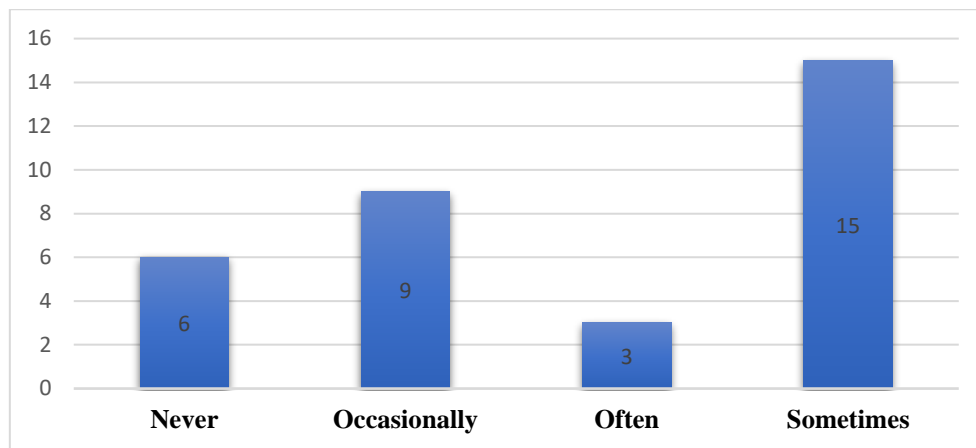


Figure 5: Students' participation frequency

According to Figure 5, only a few students often engage during research methodology sessions (9% often). In comparison, 18% of the participants reported that they never participate during the sessions, 27% of the participants participate occasionally, and the rest of the students, who represent 46%, stated that they participate sometimes. This discrepancy in responses denotes a variety of attitudes towards research methodology.

Item 03: To what extent do they agree with the following statement, "practice is essential to master research methods"? And can you please justify your choice?

Options	Frequency	%
Agree	8	24.22
Strongly agree	15	45.45
Neutral	1	3.03
Strongly disagree	9	27.27
Disagree	0	0
Total	33	100

Table 3: Importance of practice in research methodology.

Most of the participants think that practice is a fundamental aspect in learning research methodology, students' responses indicated that 45% of them strongly agreed with the abovementioned statement, 24% agreed with the idea, 3% of them stayed neutral, and 27% of students strongly disagreed with it. Furthermore, when we asked the participants to justify their answers, we were able to extract the following frequent responses:

- Practice allows students to gain familiarity with the concepts of research.
- Practice facilitates the process of conducting research.
- Focusing solely on the theoretical aspect of methodology is not enough.
- Practice educates students about how to approach research.
- Practice promotes the development of research skills.
- Practice depends on the topic being presented.

The responses mentioned above reveal that learners are aware of the significance of practice in research methodology.

Item 04: How often do you practice concepts you learned in research methodology inside the classroom?

This question focused on practice frequency inside the classroom; hence the frequency of doing a particular activity has a significant impact on the development of one's skillset. Moreover, practice under the supervision of teachers establishes a context for error correction and ensures proper application of the learned concepts.

Options	Frequency	%
Never	5	15.15
Occasionally	11	33.33
Sometimes	11	33.33
Often	4	12.12
Always	2	6.06
Total	33	100

Table 4: Practice frequency inside the classroom.

The question was measured on a frequency Likert scale. As seen above, 33% of the students have claimed that they occasionally practice inside the classroom; likewise, 33% have stated that they sometimes practice, whereas 5% of the respondents have reported that they never practice under the supervision of their teacher. By contrast, 12% asserted that they often have practice, and only 2% pointed out that they have practice on a regular basis. These results illustrate that most of the students are not satisfied with the amount of supervised practice they have inside the classroom.

Item 05: What are the factors that hinder your research methodology learning experience?

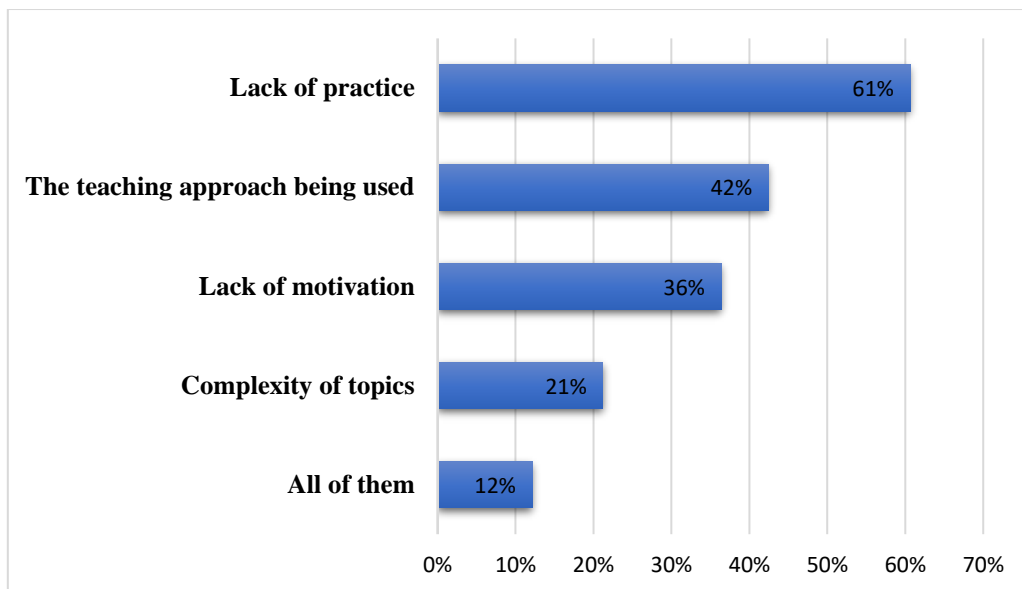


Figure 6: Factors hindering learning research methodology.

Options	Frequency	%
Lack of practice	20	61
Complexity of topics	7	21
Lack of motivation	12	36
The teaching approach being used	14	42
All of them	4	12

Table 5: Factors hindering learning research methodology.

As shown on the table and graph above (Table 5, Figure 6), the most selected option on this checklist was "lack of practice" (61%); most of the participants have asserted that the

amount of practice they get on this particular subject is inadequate. On the same premise, 42% of the sample have claimed that the instruction approach employed in teaching research methodology is another aspect impeding their learning process. Furthermore, 36% of the participants have stated that "lack of motivation" is the reason that influences their willingness to learn about methodology, whereas 21% of the participants have claimed that the complexity of the presented topics constitutes a hurdle for them when learning methodology. On another note, 12% of the participants have asserted that all the aforementioned factors hinder their learning. In a word, the data presented in the graph (Figure 6) show that students have a negative attitude towards the scarcity of practice and the instruction approach employed in research methodology.

The factors mentioned in the previous question do not only influence the students' ability to learn research methodology but also have a significant impact on students' research skills.

Item 06: Did you face any Complexities/Confusion related to research methodology during the process of conducting your research?

On this question, we emphasized the issues that students face during the process of planning and conducting their own research. The aim of this question is to gain in-depth insights into the impact of the lack of practice and highlight some of its consequences.

Options	Frequency	%
No	9	27.27
Yes	24	72.73
Total	33	100

Table 6: Frequency of students' issues pertaining to research methodology.

As shown above, in Table 6, most of the students have reported that they face difficulties related to research methodology; The data presented on the table illustrates that 72% of the participants in our sample have encountered issues related to methodology during

the process of carrying out their studies. In comparison, only 27% of the participants have reported that they did not face any complications related to methodology.

Item 07: If yes, can you please mention them?

We have summarized common issues into the following table.

Common issues	Frequency	%
Citation/In-text citation.	6	25
Figuring out an appropriate research design for the study.	6	25
Lack of knowledge about how to collect/analyse/interpret data.	4	17
Lack of knowledge about the proper application of rules.	2	8
I did not know how to start research.	6	25

Table 7: Common issues associated with research methodology.

Upon further examination of this table, we have noticed a pattern across these issues, in that, most of the reported difficulties are practice-oriented. In essence, students are aware of the rules and guidelines of scientific research; Nevertheless, they struggle when they attempt to apply these rules.

Item 08: How would you describe the teaching strategy being implemented in your research methodology class?

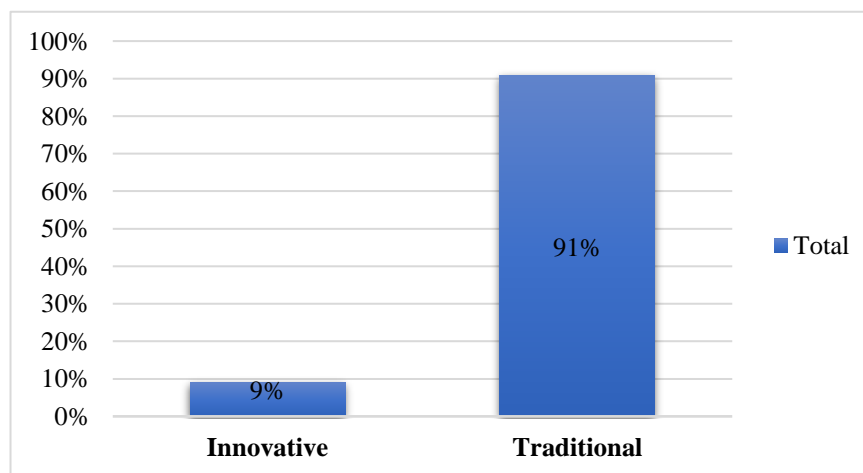


Figure 7: Students' evaluation of the current teaching approach.

As illustrated in Figure 7, most students described the current teaching method as traditional; they have reported that it emphasizes the theoretical aspect of methodology and uses traditional tools like handouts and blackboards. On the other hand, 9% of the participants have described teaching methods as innovative. The rationale behind these responses is that today's students are technology-natives, which denotes that their needs and expectations of this course differ from those of the past.

Section three: Students' attitudes of the flipped learning model.

Item 01: An ideal learning environment for you would be (Teacher-centered, student-centered, other)

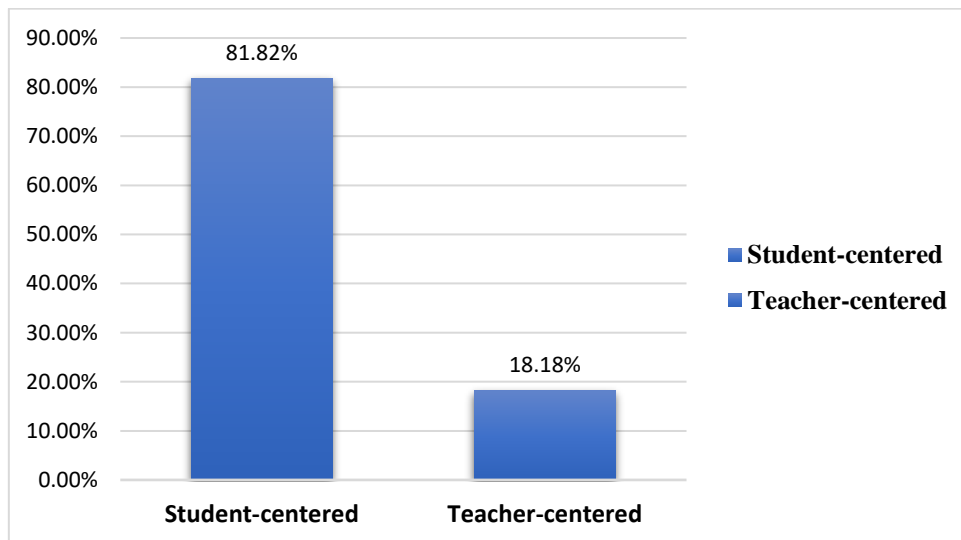


Figure 8: Students' preferred learning environment.

The reasoning for including this item is to elicit students' attitudes towards teaching approaches. As demonstrated above in Figure 8, 82% of the participants preferred a student-centered, whereas only 18% of the participants favoured a teacher-centered learning environment. However, some of the participants have suggested a solution that combines both instruction approaches. In other words, they believe that teachers and students should collaborate in the learning process.

From these results, we have noticed that most of the participants favour the autonomy that the student-centered approach offers; However, some of the students have preferred an interactive learning environment where teachers and students collaborate.

Item 02: As a 21st-century learner, what is your attitude towards using ICT inside the classroom?

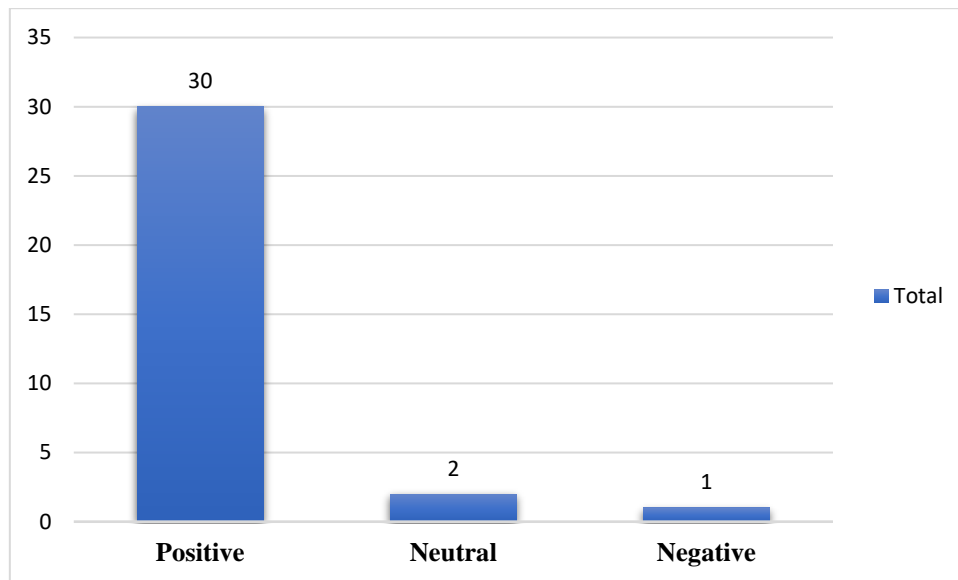


Figure 9: Students' attitudes towards the concept of integrating ICT inside the classroom.

As shown in this graph, most participants (91%) have elicited a positive attitude towards integrating ICT in their learning. However, a few respondents chose to stay neutral (6%), while only one respondent (3%) have elicited a negative attitude towards this concept. Furthermore, several participants have stated that despite their “good” knowledge of the theoretical aspects of methodology, they lack the skillset which enables them to utilise computer software such as word, SPSS, and the like. Therefore, the data presented on this graph signifies the importance of integrating ICT into research methodology classes.

Item 03: What do you usually do when you fail to understand a certain concept in research methodology?

This item aims to showcase some of the tools that students use to deal with issues relating to this subject.

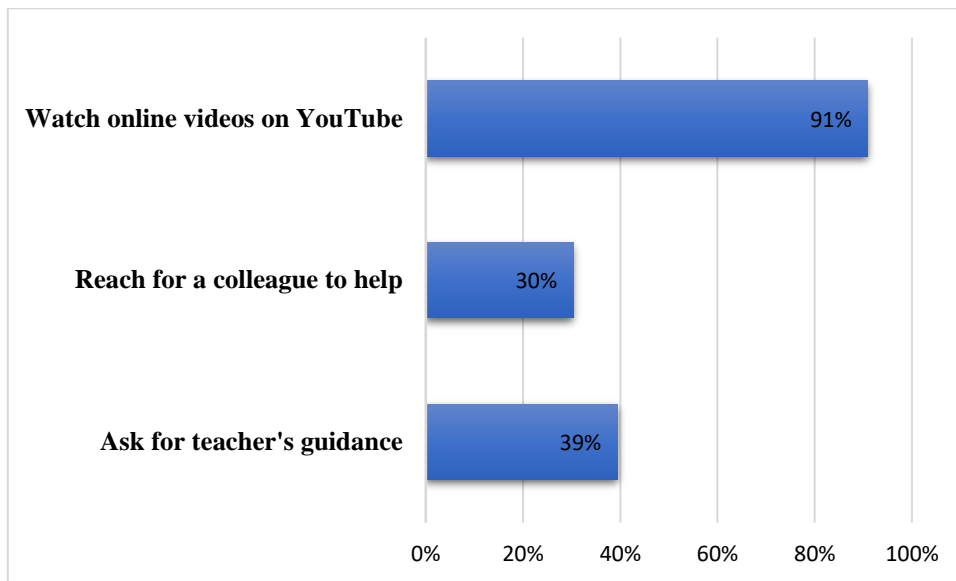


Figure 10: Guidance sources for students

A look at this graph reveals that the most commonly used tool by students is online videos (91%); respondents have reported that these videos usually have a facilitated version of the lesson. Furthermore, they have emphasized the fact that they can pause, replay, and follow along with video tutorials. By contrast, 39% of the respondents have stated that they ask teachers for help once they face difficulties. Lastly, 30% of the respondents have indicated that they ask their colleagues for an explanation. These results accentuated students' positive attitudes towards using videos as an instrument to support their learning.

Item 04: How often do you watch educational videos to support your learning?

Options	Frequency	%
Never	0	0
Occasionally	3	9.09
Sometimes	12	36.36
Often	12	36.36
Always	6	18.18
Total	33	100

Table 8: Frequency of using educational videos

The data presented in table 8 shows that most participants in our sample are familiar with using educational videos. 36% of the responders reported that they sometimes use videos to support their learning, 9% stated that they use them occasionally. By contrast, 36% stated that they often use educational videos, and 18% of the responders asserted that they always use videos. These results reveal students' positive attitudes towards using videos in their learning.

Item 05: In your opinion, how long should educational videos be?

Options	Frequency	%
From 10 to 20 minutes	5	15.15
From 5 to 10 minutes	23	69.70
Less than 5 minutes	5	15.15
Total	33	100

Table 9: Students' views on educational videos length

The data summarized in the table above indicates that 23 of the participants, who constitute 69% of the sample, believe that educational videos length should be between 5 to 10 minutes, 15% of the participants suggest it should be between 10 to 20 minutes, while the rest of the participants believe that these videos should be less than 5 minutes long. In essence, these results establish a criterion for creating videos for flipped research methodology classes.

Item 06: Are you familiar with concept of "Flipped classroom" or "Inverted learning"?

Options	Frequency	%
Maybe	7	21
No	20	61
Yes	6	18
Total	33	100

Table 10: Students' familiarity with the concept of flipped learning

As demonstrated in this table, most of the respondents have stated that they are not familiar with this concept, in that, 20 students out of the total sample, constituting 61% have

replied to this question with "No", Whereas 21% of students have stated that they are undecided. Yet, 18% of the respondents have claimed that they are familiar with the concept of flipped learning. Moreover, the participants who have responded with "Yes", have also provided brief definitions of flipped learning. The logic behind this disparity in results is that this model is novel to the pedagogical scene, and not many students have been exposed to it.

Item 07: Do you think that prioritizing practice/application of concepts during class time would yield a better understanding of research methodology?

At its core, the flipped learning model aims at maximizing the amount of supervised practice that students get inside the classroom. Henceforth, this item attempted to elicit students' perspectives regarding this approach.

Options	Frequency	%
Yes	33	100
No	0	0
Total	33	100

Table 11: Students' attitudes towards the concept of flipped learning.

As illustrated in this table, all participants have agreed that prioritizing practice inside the classroom has a significant impact on students' perception of research methodology. Furthermore, Once the participants were asked to justify their responses, they have stated that practice inside the classroom allows students to detect their mistakes and misconceptions. Moreover, they have asserted that "practice makes perfect."; They believe that there is more to research methodology than the theoretical aspect. Furthermore, several participants have pointed out that collaborative practice with colleagues and teachers constitutes a context for remedial support. Finally, the respondents have stressed the importance of having a hands-on learning experience regarding the practical aspects of research methodology, like, citation, data collection, analysis, conducting interviews, questionnaires, and surveys.

3.2. Teachers' Interview

3.2.1. Description of the Teachers' Interview

A semi-structured interview (see appendix B) was employed to examine the research problem from the teachers' perspective. Hence, the purpose of this interview was to get in-depth insights about teaching research methodology. The interview was divided into three general sections.

First section: Instructional approaches employed in teaching research methodology.

The first section of the interview included 04 questions about the current instruction approach of research methodology. In the beginning, we asked teachers if they used any specific instruction method to teach methodology. Furthermore, teachers were asked about their perception of using videos to support students' learning and how they thought it might be helpful. The purpose of the last two items in this section was to check teachers' familiarity with the flipped learning model and whether they thought it was suitable for teaching methodology.

Second section: The significance of feedback and practice on learning research methodology

This section aims to determine the significance of practice and feedback in research methodology classes from teachers' perspectives. First, we asked teachers about the importance of practice in this subject. Lastly, we asked about feedback provision to learners and how they manage that aspect.

Third section: Challenges associated with teaching research methodology

The present portion of the interview aimed at highlighting some of the challenges that teachers encounter while teaching research methodology. Also, it addressed the scarcity/availability of the required facilities to teach this subject.

3.2.2. Administration of the Interview

The interview targeted teachers of English who had experience in teaching research methodology at the University of Mohamed Khider – Biskra; Furthermore, the interview took place on June 21st, 2021. Indeed, the scope of this research was narrowed to teaching research methodology to EFL learners and the set of academic challenges associated with it. Each interview lasted about 11 to 16 minutes, which were sufficient to cover most of the points we intended to discuss.

3.2.3. Analysis of Teachers' Interview

The questions and answers in this section are examined separately and thoroughly. Because we only had the opportunity to interview two teachers due to time constraints and the sanitary conditions of COVID-19. Still, both of our interviewees had more than ten years of teaching experience in the field, which ensured in-depth insights into the problem from two different perspectives.

Question 01: How does teaching research methodology differ from teaching other modules in the EFL context?

The rationale for this question is to highlight the pillars of the subject of research methodology, and most importantly, depict the teachers' experience regarding this particular topic.

Teacher A: *“It combines two sections, theory and practice like the other modules. But it is integrated into all the other fields of knowledge. which means it is a discipline where literature and linguistics and the like are related and depends mostly on the techniques and strategies of this module, that is why it is very important, and it is interrelated with all fields, unlike other modules where each one has its field”.*

As observed in this response, research methodology has a broad scope compared to the other subjects being taught in the EFL context; As it comprises all the different techniques, instruments, types, and procedures of scientific research. Therefore, this sole subject constitutes a link between all of the topics (modules) and defines the proper tools and approaches to tackle a problem in that specific field of knowledge. Moreover, seeing that research methodology is a practical subject in terms of its objectives, such versatility poses several challenges on the teachers' behalf when it comes to its practical aspect. Therefore, teacher B targeted this exact point in his response:

Teacher B: *“Well, we face lots of problems. Especially when it comes to the application because research methodology is purely practical, those who succeed in drawing the link between theory and practice are good researchers, so lack of practice is the major problem here, and All levels, I guess”.*

Even though research methodology has two aspects, a theoretical and a practical one, it is more practical dominant. Hence, the purpose of this subject is to train students to carry out studies into various disciplines through following the systematic procedures of scientific research. Therefore, the theoretical facet of this subject assists its practical one (Figure 11).

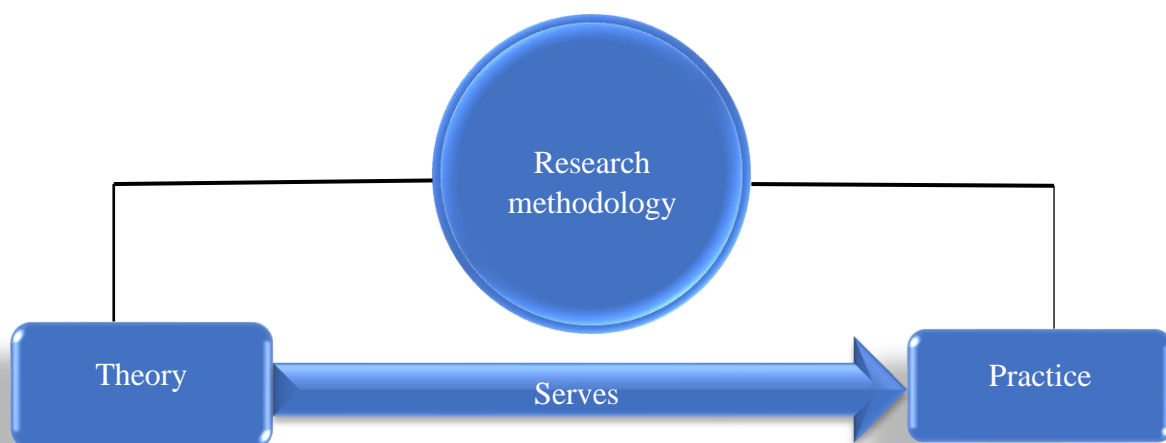


Figure 11: Framework of research methodology

Question 02: Do you adopt any particular instruction method in teaching research methodology?

Teacher A: *“it depends here on the teachers' method; usually we have common lecturing, we have a problem-solving method or dividual courses to be posted in-advance online to accompany it later also with practice in the classroom”.*

Teacher B: *“There is no particular teaching method, but we try to be eclectic; we take the best practice from each approach or method”.*

This question aims to inquire about instruction approaches that teachers use to accomplish the objectives of research methodology.

According to the teachers' responses above, we noticed that both teachers do not restrict themselves to any specific teaching method. Instead, they opt for an eclectic approach to cover the predetermined objectives of the subject and serve the needs of their learners. Therefore, teachers try to adapt their teaching methods according to the topic being taught, but they both share the same aim: to enable learners to compose a work that meets the standards of academia and comply with the scientific procedures of research.

Question 03: Have you thought of using video lessons to support students' learning?

Teacher A: *“Yes, I already did. And until now, I have positive feedback from my students”.*

Teacher B: *“Of course, The idea is there, but when it comes to the field, we face a lot of problems”.*

This question aids in eliciting teachers' perception of using videos as a pedagogical tool to assist their students' outside of the classroom. From the responses presented above, both teachers believe that educational videos/tutorials can be a valuable asset to support students' learning. For instance, in the case of teacher A, students responded positively to this concept.

However, video production seems like a task that requires time, skills, and ICT equipment, which explains why some teachers choose not to use visual tutorials.

Question 04: Are you familiar with the concept of “Inverted classroom” or “flipped learning”?

Teacher A: *“Yes, A little bit”.*

Teacher B: *“I hear about it, but I have never tried to apply it in our context”.*

The purpose of this question was to determine teachers’ familiarity with the concept of flipped learning. The interviewees' responses indicated that they have some basic knowledge about this approach, yet they have not attempted to employ it in this particular context.

Question 05: Can this concept of flipped learning serve the objectives of teaching research methodology?

Teacher A: *“It can be, as long as it is always accompanied with intensive practice. Because methodology is in itself is the practical aspect of knowledge, so when you deliver theoretical classes, theoretical lessons need to be also accompanied and followed by a practical session about the different strategies of methodology, say, citations, data collection, and so on, many other fields”.*

Teacher B: *“Yes, of course; I believe it is really helpful due to the digital nature of today's generation. Yes, so we try to motivate them at least. Especially, when the session is about some theoretical points, the students sometimes complain that research methodology is boring without practice; So at least try to break the routine of I do not know, lectures and teacher dominance of the lectures, with some videos maybe, tutorial videos, I do not know there are a lot of ideas”.*

The purpose of this item was to depict teachers’ perception of the flipped learning model and how they think it is helpful in the context of teaching research methodology.

As can be observed in the answers above, Teacher A noted that this method can be used in teaching research methodology and emphasized the importance of practice after dealing with the theoretical part of the lesson. On the other hand, Teacher B stressed the digital nature of today's students and how this method can enable teachers to break the routine of traditional classrooms. In essence, both of our interviewees thought that this instruction approach could enhance the outcomes of research methodology classes.

Question 06: Considering the course of research methodology a practical one in terms of its objectives, to what extent do EFL students have to practice during the course? And what are the main targeted aspects?

Teacher A: *“Negating practice is going to be terrific; when there is no practice in this discipline of methodology, it means you are just if we can say "in a vacuum." Because, the theory itself is meant to serve practice in this module in particular, not the practice which servers the theory. Like, written expression or in literature, here the theory serves practice, it means if you do not practice, you are doing nothing, these kinds of courses if we can say "Beforehand reinforcement" to the lecture of methodology, because, it must always be practiced in the context of activities, classroom workshops and so on”.*

Teacher B: *“Well, as much as possible, if there is a possibility to write a research paper on every module, it would be very helpful for them”.*

This question aimed to illustrate the importance of practice in research methodology from the teachers’ perspectives. Teacher A noted some of the consequences of lacking practice; hence the main objectives of the course research methodology is to allow students to gain familiarity with the various facets of scientific inquiry and ultimately train them on how to produce a logical, verifiable, and credible piece of work. However, different disciplines entail the employment of specific instruments and methods that serve in investigating that field of

knowledge. For instance, the nature of each study requires a particular type of data, analysis, and interpretation. Teacher B, stressed this exact point through suggesting that students should conduct investigations on different topics in order to gain familiarity with the different criteria of scientific research.

Question 07: Do you struggle with the feedback provision to every student inside the class? If yes, how do you cope with that?

Teacher A: *“If we follow every student in the classroom, we waste much time and effort, so we always focus on the commonest and the common errors, the common gaps, the common mistakes that are committed at the level of the group, and we rectify them through highlighting different ways and strategies for the common good, but if we follow everyone in a solution, here we can say logically time will never be enough, that is why teachers should always be vigilant about the fact that he cannot cover everything in his session, he should focus only on the basic, the main gaps, the main weaknesses, to rectify, to address”.*

Teacher B: *“Not really, because I try to vary the pattern of interaction between my students and me, I try to vary the activities so that I can guess at least their feedback”.*

Taking into account that research methodology is practical in terms of its objectives, the purpose of this question was to examine issues associated with feedback provision to learners. Our interviewees provided two distinct strategies to address this issue. For instance, teacher A stated that addressing every element inside the classroom is not feasible in terms of time; instead, it is more reasonable to target the common gaps amongst the students. Whereas teacher B pointed out that varying the ways of providing feedback aids in reaching more students.

Question 08: What are the main challenges that teachers encounter while teaching research methodology?

Teacher A: *“They need to update themselves to respond to the requirements of the new generation with the use of ICT as you mentioned, number two they should focus more on practice than on theory, number three, also, I think they should give, if we can say, a realistic and practical material when it comes to methodology, for example. I teach linguistics, I should teach them the methodology that serves their specific field of study and teach them about the tools they need in their research, and I find that common theoretical view to all the branches to cover that module theoretically and to finish my task, no, I must be concerned mainly with what their research requires practically for when they write their dissertations. For example, in the Linguistics branch, I should focus on the APA and give them a hint about MLA, offer them videos about it, how to cite, how to organize their research. So, each option should have its methodology to be covered properly”.*

Teacher B: *“Well, I, this is a personal point of view, of course. I believe it is the lack of knowledge about research and research methodology; even though we are teachers, we do not know enough about research and research methodology. That is the major problem that we face, so we need to read more about research methodology, have a look at different sources and views, we need to benefit from previous researches”.*

This question addressed the issues that teachers encounter in teaching research methodology. As seen above in the respondents' answers to this particular question, several issues are related to teaching this subject. For instance, Teacher B referred to the breadth of this discipline in that it can be a challenging endeavour to cover all the aspects of research methodology. In contrast, teacher A asserted that renovation and adaptation are the solutions to this set of challenges.

Question 09: Does the university provide the required facilities to teach research methodology?

Teacher A: *“When it comes to practice, it is not, because at universities even the classes which are offered for this module are not meant to cover all points, they just, if we can say some initial classes, normally the student as a researcher, is supposed to continue the rest at home, especially, nowadays with the internet it has many options; websites, videos, to see different strategies and methods, to learn them by himself, in the classroom we give only the basics the rest should not be done only in the classroom, even in groupwork at the library”.*

Teacher B: *“Unfortunately, no, especially in our field of interest which is EFL, well the library provides some, let us say, old books, of course, they are of good benefit but, we always need to have a look at recent works, in terms of technology we are still struggling”.*

The purpose of this question was to address the extrinsic factors that hinder the teaching experience of research methodology. According to the teacher’s A response, the teaching program offered by the university does not target every last aspect of the module; rather, it is the learners’ responsibility to adopt from other sources of knowledge in order to have a thorough understanding. On this same premise, Teacher B mentioned the poor implementation of ICT in the EFL context and the lack of new materials at the university library.

Question 10: Will shunning away from traditional teaching methods to novel teaching methods like flipped learning enhance the outcomes of the course of research methodology?

Teacher A: *“Of course, it will help them even memorize what they watch. Also, it helps them benefit from the widest range of information, which sometimes cannot be covered at the classroom board, for example, when you post something for them, you might add some extra information, some remarks, some comments, but then when you prepare your class, you add them in the video”.*

Teacher B: *“I believe so. As I mentioned earlier, Today’s generation is a digital-native generation. Therefore, we need to get rid of the traditional practices and try to cope with*

today's teaching methods and the available material. This is it; we need to make use of the internet and technology and distance learning”.

The obtained results illustrate that both of our interviewees responded positively to this item, as they think that the introduction of this concept into the context of teaching research methodology can be a useful approach to accomplish the objectives of this subject, as well as meet the needs of today's students.

Question 11: What would you recommend for the betterment of teaching research methodology?

This question was put forward to draw further suggestions that teachers believe would ameliorate the outcomes of research methodology classes.

Teacher A: *“the use of ICT, renovate one's methods and strategies, to look for what boosts the autonomy of the learner”.*

Teacher B: *“Well, I have suggested this before, and I have tried to work with this idea of an ICT based approach in teaching research methodology, in research methodology should be taught at the internet laboratory here at the university, so that when we, speak about something we go to the computer and we try to apply that point”.*

4. Synthesis and Discussion of the Findings

This section of the study summarizes the main findings of the students' questionnaire and teachers' interviews. As a result, our hypotheses which stated that the integration of the flipped learning model would enhance EFL learners' research skills, motivation, and attitude towards learning research methodology, have been confirmed.

4.1 Students' Questionnaire

First, since the course of methodology prioritizes the theoretical aspect of the subject over its practical one, several issues arise when students attempt to approach their research and determine the proper methodology for that exact piece of academic work. Moreover, focusing only on the theoretical aspect of research methodology can lead students to develop a negative attitude towards the research methodology and impede the development of students' research skills.

Second, the poor implementation of ICT in the course of research methodology has a significant impact on students' perception of the module; As the practical facet of research methodology necessitates the use of ICT tools. For instance, data analysis requires adequate training in SPSS and Nvivo.

Third, the findings accentuated students' positive attitudes towards using videos as an instruction tool, which means that students appreciate the notion of providing educational videos outside of the classroom.

Forth, students exhibited positive attitudes towards the concept of flipped learning in teaching research methodology, as they agreed that prioritizing practice inside the classroom will enhance the outcomes of the sessions.

4.2 Teachers' Interview

Although the researchers had the opportunity to interview two teachers only, several notable findings emerged from the teachers' interviews. Upon examination of our interviewees' responses, the researchers noticed three common themes. The first theme is concerned with renovation and adaptation, in that teachers should continuously update and adopt novel teaching methods in order to target the needs of today's students. The second theme has to deal

with practice; both of our interviews stressed the importance of this last, as they believe that practice is the only way to familiarise students with scientific research procedures. Moreover, the third theme referred to the implementation of ICT in methodology classes as it is crucial in teaching students how to put theory into practice. Eventually, the respondents believed that the flipped learning model can serve the needs of today's technology-native students and maximize the amount of practice they get.

Conclusion

In conclusion, the main purpose of the present chapter was to analyse, present, and discuss the data gathered through the students' questionnaire and the teachers' interviews. To recap, the questionnaire was administered to Master two students of applied linguistics at the English department of the University of Mohamed Khider – Biskra; The aim behind this questionnaire was to underline some of the difficulties associated with learning research methodology from the perspectives of students. Moreover, the second aim of the questionnaire was to elicit students' attitudes towards the concept of flipped learning. Whereas, the purpose of the teacher's interview was to gain in-depth insights about teaching research methodology in the EFL context, inquire about the current teaching approach, and address some of the challenges pertaining to teaching research methodology.

General Conclusion

General Conclusion

The present study aimed to investigate the impact of implementing the flipped learning model in teaching research methodology. Issues related to the practical side of the aforementioned subject are prevalent. Thus, this study attempted to elucidate the set of challenges that both EFL teachers and learners encounter with regard to this module. As well as clarify the rationale behind flipped learning and its application in this specific context.

This study comprised three chapters; the first and second chapters of this work introduced the theoretical background of two variables; however, the third chapter was devoted to presenting, analysing, and discussing the gathered data. The first chapter established the theoretical foundation of the flipped learning method; more precisely, this chapter dealt with the definition of this method, its pillars, advantages, pitfalls, and compared it to the traditional instruction approach. Moreover, the second chapter covered the second variable of this study, which was research methodology; this chapter presented scholar's definitions of scientific research, the various steps involved in conducting a study, the difference between the notions of research methods and methodology, and highlight the significance of knowing about research methodology. Finally, the third chapter was devoted to the fieldwork; it defined the research design, sample, and population, data collection devices. Moreover, it reported and discussed the findings of the students' questionnaire and teachers' interviews.

On the whole, the findings of this inquiry illustrated that the flipped learning method can be a useful approach to accomplish the practical objectives of the course of research methodology in the EFL context. As it promotes constant feedback provision, optimizes the amount of in-class practice, and targets the needs of nowadays students.

Limitations of the Study

Even though the predetermined objectives of the study were accomplished, this inquiry has its limitations, which includes:

- ❖ Initially, we intended to interview more teachers to have further insights into the problem, yet due to the change of the academic schedule and the sanitary conditions because of the global pandemic of COVID-19, we were not able to.
- ❖ The present study was supposed to be a quasi-experimental study; however, due to time constraints, we decided to do a descriptive study instead.
- ❖ Lack of resources on teaching research methodology in the EFL context.
- ❖ The inquiry was limited to students of Master two.

Pedagogical Implications and Recommendations

This study aimed at investigating the impact of implementing the flipped learning model on teaching research methodology. The findings of the present investigation have important implications for the betterment of teaching the aforementioned module to EFL learner, including the following:

- ❖ An experimental study based on the findings of this one could be implemented to examine the issue further.
- ❖ Teachers of research methodology should focus more on the practical aspect of the subject in order to familiarise students with the instruments, methods, and typology of scientific research.
- ❖ The university should provide an adequate infrastructure that allows for the integration of ICT in teaching research methodology.

- ❖ Teachers should create or provide video tutorials about the proper application of research methods, data analysis, citations, and the like to support their students' learning.
- ❖ Teachers of all modules should encourage students to conduct research papers in their contexts to ensure that students are exposed to the specific research instruments that serve that exact module.
- ❖ Teachers should maintain their students' motivation when dealing with theoretical topics.

References

- Abeyssekera, L., & Dawson, P. (2014). Motivation and cognitive load in the flipped classroom: Definition, rationale and a call for research. *Higher Education Research & Development, 34*(1), 1-14. doi:10.1080/07294360.2014.934336
- Adila, W. (2018). *Teaching Research Methodology between Theory and Practice. Investigating Students' Deficiency: A Case Study of Undergraduate Students*. (Master's dissertation, Ahmed Draïa University, Adrar, Algeria). Retrieved from <https://dspace.univ-adrar.edu.dz/xmlui/handle/123456789/1402>
- Aghaei, K., Rajabi, M., Lie, K. Y., & Ajam, F. (2019). Flipped learning as situated practice: A contrastive narrative inquiry in an EFL classroom. *Education and Information Technologies, 25*(3), 1607-1623. doi:10.1007/s10639-019-10039-9
- Andujar, A., Salaberri-Ramiro, M. S., & Martínez, M. S. C. (2020). Integrating Flipped Foreign Language Learning through Mobile Devices: Technology Acceptance and Flipped Learning Experience. *Sustainability, 12*(3), 1110. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su12031110>
- Bailey, K. D. (2008). *Methods of Social Research*. Free Press.
- Barraket, J. (2005). Teaching Research Method Using a Student-Centred Approach? Critical Reflections on Practice. *Journal of university teaching and learning practice, 2*, 3.
- Benderraji, K. (2020). *Effectiveness of Flipped Learning Model on English for Tourism Trainees' Communication Skills (discussing, debating, and presenting) An Action Research at Emla school Ghardaia*. (Master's dissertation, Kasdi Merbah University, Ouargla, Algeria). Retrieved from <https://dspace.univ-ouargla.dz/jspui/handle/123456789/23669>

- Benzert, F. Z. (2018). *Investigating the Potential of the Flipped Classroom in Fostering Content Understanding, Promoting Engagement, and Facilitating Differentiated Instruction Case study: First year Master Students of Language and Communication*. (Master's dissertation, Abdelhamid Ibn Badis University, Mostaganem, Algeria). Retrieved from <http://e-biblio.univ-mosta.dz/handle/123456789/9106>
- Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. Eugene: International Society for Technology in Education.
- Bergmann, J., & Sams, A. (2012, June 20). Flipped Learning Founders Set the Record Straight [Interview by S. Noonoo]. Retrieved from <https://thejournal.com/articles/2012/06/20/flipped-learning-founders-q-and-a.aspx?m=1>
- Bergmann, J., & Sams, A. (2014). *Flipped learning: Gateway to student engagement*. Eugene, Oregon: International Society for Technology in Education.
- Bhandari, P. (2020, July 30). What is Qualitative Research?: Methods & Examples. Retrieved from <https://www.scribbr.com/methodology/qualitative-research/>
- Biggam, J., & Biggam, J. (2011). *Succeeding with your Masters dissertation*. Maidenhead: McGraw Hill.
- Bishop, J., & Verleger, M. (2013). The Flipped Classroom: A Survey of the Research. 2013 *ASEE Annual Conference & Exposition Proceedings*. doi:10.18260/1-2--22585
- Bloom, B. S. (1968). Learning for Mastery. Instruction and Curriculum. Regional Education Laboratory for the Carolinas and Virginia, Topical Papers and Reprints, Number 1. Retrieved from <https://eric.ed.gov/?id=ED053419>

- Bloom, B. S., Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *The Taxonomy of educational objectives, handbook I: The Cognitive domain*. New York: David McKay Co., Inc.
- BOUDIAF, N. (2018). *Investigating Students' Attitudes towards the Use of the Flipped Classroom to Enhance the Speaking Skill A Case study of first year EFL LMD Students*. (Master's dissertation, Mohamed Kheider University, Biskra, Algeria).
- Brown, R. B. (2006). *Doing your dissertation in business and management: The reality of researching and writing*. London: SAGE.
- Bush, M. D., & Terry, R. M. (Eds.). (1997). *Technology-enhanced language learning*. Lincolnwood, IL: National Textbook.
- Bush, M. D., & Terry, R. M. (Eds.). (1997). *Technology-enhanced language learning*. Lincolnwood, IL: National Textbook.
- Cole, J. E., & Kritzer, J. B. (2009). Strategies for Success: Teaching an Online Course. *Rural Special Education Quarterly*, 28(4), 36-40. doi:10.1177/875687050902800406
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: SAGE Publications.
- Dali Ali, R. (2020). *Implementing Grammar-Based Flipped Classroom to Improve English Foreign Language Learners' Writing Skill : A Case Study of BACHA School Beginners*. (Master's dissertation, Mohamed Kheider University, Biskra, Algeria). Retrieved from <http://archives.univ-biskra.dz/handle/123456789/16065>
- Definition of Flipped Learning. (2014, March 12). Retrieved April 4, 2021, from <https://flippedlearning.org/definition-of-flipped-learning/>

- Elian, S., & Hamaidi, D. (2018). The Effect of Using Flipped Classroom Strategy on the Academic Achievement of Fourth Grade Students in Jordan. *International Journal Of Emerging Technologies In Learning (IJET)*, 13(02), pp. 110-125. doi: <http://dx.doi.org/10.3991/ijet.v13i02.7816>
- Eppard, J., & Rochdi, A. (2017). A Framework for Flipped Learning. *International Association for Development of the Information Society*. Retrieved from <https://eric.ed.gov/?id=ED579204>.
- European Commission (2001). The eLearning action plan : Designing Tomorrow's Education. Retrieved from <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0172:FIN:EN:PDF>
- Farrah, M., Qawasmeh, A. (2018). English Students' Attitudes Towards Using Flipped Classrooms in Language Learning at Hebron University. *Research in English Language Pedagogy*, 6(2), 275-294. doi: 10.30486/relp.2018.542708
- Flipped Learning Network (FLN). (2014) The Four Pillars of F-L-I-P™. Retrieved from <https://flippedlearning.org/definition-of-flipped-learning/>
- Howell, K. E. (2013). *An Introduction to the Philosophy of Methodology*. London: Sage Publications.
- Huba, M. E., & Freed, J. E. (2000). *Learner-centered assessment on college campuses: Shifting the focus from teaching to learning*. Boston: Allyn and Bacon.
- Karimi, M., & Hamzavi, R. (2017). The Effect of Flipped Model of Instruction on EFL Learners' Reading Comprehension: Learners' Attitudes in Focus. *Advances in Language and Literary Studies*, 8(1), 95-103. doi: 10.7575/aiac.alls.v.8n.1p.95

- Kostka, I., & Marshall, H. W. (2020). Flipped Learning in TESOL. *Language Learning and Literacy*, 124-144. doi:10.4018/978-1-5225-9618-9.ch007
- Kothari, C. R. (2004). *Research methodology methods & techniques*. New Delhi: New Age International (P).
- Kranthi, K. (2017). Technology Enhanced Language Learning (TELL). *International Journal of Business and Management Invention*, 6(2), 30-33. Retrieved April 04, 2021, from [https://www.ijbmi.org/papers/Vol\(6\)2/version-4/E0602043033.pdf](https://www.ijbmi.org/papers/Vol(6)2/version-4/E0602043033.pdf).
- Krathwohl, D. R. (2002). A Revision of Blooms Taxonomy: An Overview. *Theory Into Practice*, 41(4), 212-218. doi:10.1207/s15430421tip4104_2
- Kukulska-Hulme, A., & Traxler, J. (2005). *Mobile Learning: A handbook for educators and trainers*. Oxon: Routledge.
- Kumar, E. S., & Sreehari, P. S. (2011). Computer Assisted Language Learning (CALL). *A Handbook for English Language Laboratories*, 3-14. doi:10.1017/upo9788175968677.003
- Kumar, R. (2012). *Research methodology: A step-by-step guide for beginners*. Los Angeles: SAGE.
- Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment. *The Journal of Economic Education*, 31(1), 30. doi:10.2307/1183338
- Leedy, P. D., Ormrod, J. E., & Johnson, L. R. (2021). *Practical research: Planning and design*. Harlow, GB: Pearson.
- Linga, P. & C.H. Wang (2014). Flipped class learning in a large class setting. *CDTL Brief*, 17(1), pp. 4-9.

- Marty, F. (1981). Reflections on the use of computers in second-language acquisition — I. *System*, 9(2), 85-98. doi:10.1016/0346-251x(81)90023-3
- McCombes, S. (2020, June 12). Correlational Research: Definition, Methods and Examples. Retrieved from <https://www.scribbr.com/methodology/correlational-research/>
- Muhlisoh, E. (2019). *Students' Perceptions of Flipped Approach in EFL Classroom: A Survey Research*. (Bachelor thesis, University of Jember, Jember, Indonesia). Retrieved from <https://repository.unej.ac.id/handle/123456789/93962>
- Piaget, J. (1964). Part I: Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching*, 2(3), 176–186. doi:10.1002/tea.3660020306
- Prince, M. (2004). Does Active Learning Work? A Review of the Research. *Journal of Engineering Education*, 93(3), 223-231. doi:10.1002/j.2168-9830.2004.tb00809.x
- Ridley, D. (2013). *The literature review: A step-by-step guide for students*. London: Sage.
- Sánchez, J. J., & Alemán, E. C. (2011). Teachers' opinion survey on the use of ICT tools to support attendance-based teaching. *Computers & Education*, 56(3), 911-915. doi:10.1016/j.compedu.2010.11.005
- Shahani, S., Chalak, A., Heidari Tabrizi, H. (2020). The Iranian Intermediate EFL Learners' Attitudes towards Using Flipped Teaching via Google Classroom. *Research in English Language Pedagogy*, 9(1), 90-112. doi: 10.30486/relp.2020.1880561.1159
- Singh, Y. K. (2006). *Fundamental of research methodology and statistics*. New Delhi: New Age International Pvt.
- Soliman, N. A. (2014). Using E-Learning to Develop EFL Students' Language Skills and Activate Their Independent Learning. *Creative Education*, 05(10), 752-757. doi:10.4236/ce.2014.510088

- Streefkerk, R. (2021, February 15). Qualitative vs. Quantitative Research: Differences & Methods. Retrieved from <https://www.scribbr.com/methodology/qualitative-quantitative-research/>
- Suludere, H. N. (2017). *Learning in the 21st Century: The Flipped Foreign Language Classroom* (doctoral thesis, Ca' Foscari University, Venice, Italy). Retrieved from <http://hdl.handle.net/10579/10332>
- Take a Trip Through the History of E-Learning: E-Student. (2019, December 21). Retrieved April 04, 2021, from <https://e-student.org/history-of-e-learning/>
- Talbert, R. (2012) Inverted Classroom. *Colleagues* 9 (1). Retrieved from <https://scholarworks.gvsu.edu/colleagues/vol9/iss1/7/>
- Tamm, S. (2020, December 21). What is the Definition of E-Learning? Retrieved April 20, 2021, from <https://e-student.org/what-is-e-learning/>
- Timechbache, I. (2020). *An Investigation on the EFL Learners' Attitude towards the Use of the Flipped Classroom Model in Enhancing their Grammar Learning The Case of First Year Students of English*. (Master's dissertation, Mohamed Kheider University, Biskra, Algeria). Retrieved from <http://archives.univ-biskra.dz/handle/123456789/16151>
- UNESCO ICT Competency Framework for Teachers* [Version 3]. (2018). Retrieved April 04, 2021, from <https://gcedclearinghouse.org/resources/unesco-ict-competency-framework-teachers-ver3>
- University of Chicago. (2020, April 29). *COVID 2025: How an explosion in remote learning changes education - Randal Picker on COVID 19* [Video file]. In *YouTube*. Retrieved from <https://www.youtube.com/watch?v=11xtu-ZWLJs>
- Vaus, D. A. (2001). *Research design in social research*. Los Angeles, CA: Sage.
- VYGOTSKIJ, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, Mass: Harvard University Press.

Walliman, N. (2011). *Research methods: The basics*. London: Routledge.

Wolff, L., & Chan, J. (2016). *Flipped classrooms for legal education*. Singapore: Springer.

Appendices

Appendix A

University of Mohamed Khider Biskra

Department of literature and foreign languages

English Division

Students' Questionnaire

Dear students,

You are kindly asked to answer the following questionnaire, which attempts to collect data for the accomplishment of a master dissertation under the title "Investigating the Effects of Integrating Flipped Learning Model on Teaching Research Methodology."

The data gathered through this questionnaire is used for research purposes only.

Thank you for your time and contribution.

Personal information:

How old are you? _____

Gender: Male Female

Section one: Students attitude towards Research methods in language learning (RMLL)

1. Do you consider research methodology as an important subject in your academic journey?

Yes No

Why?.....

.....

2. How often do you practice concepts you learned in RMLL inside the classroom?

Never Rarely Sometimes Often Always

3. How often do you participate in RMLL class?

Never Rarely Sometimes Often Always

4. Do you believe that practice is essential to master research methods?

Yes No

Can you explain why?

.....

5. What are the difficulties you face in RMLL?

Lack of practice

Complexity of concepts

Lack of motivation

Other

6. Did you face any Complexities/Confusion related to research methodology during the process of conducting your research?

7. How would you describe the teaching strategy being implemented in your research methodology class?

Innovative Traditional other

Section 2: students' perception of Flipped learning and E-learning

8. Are you familiar with concept of "Flipped classroom" or "Inverted learning"?

Yes No

9. Do you think that prioritizing practice / application of concepts during class time, would yield a better understanding of research methods? How?

.....

.....

10. An ideal learning environment for me would be:

Student-centered

Teacher-centered

Other_____.

11. As a 21st century learner, what is your attitude towards using ICT inside the classroom?

Positive Neutral Negative

Can you explain please?

.....
.....

12. What do you usually do when you fail to understand a certain concept?

Ask for teacher's guidance

Watch YouTube videos/tutorials

Discuss with a colleague

Other?

.....
.....

13. How often do you watch educational video to support your learning?

Never Rarely Sometimes Often Always

14. In your opinion how long educational videos should be?

Less than 5 minutes

From 5 to 10 minutes

From 10 to 20 minutes

Other_____.

15. Do you prefer videos because;

You can learn at your own pace

You can replay the video multiple times

They are entertaining

They are time-efficient

Other reasons

Thank you for your time & contribution.

Appendix B

Teachers' Interview

Interview request

Dear _____.

My name is Chergui Djamel Eddine, I am a master two student at UMKB. I'm currently carrying out a study about "using the flipped learning model in teaching RMLL", I would wholeheartedly appreciate your help with a brief interview regarding teaching research methodology to EFL learners. If you are willing to participate, I would like to schedule a confidential, interview at your convenience. The interview will be recorded (Audio-only) for transcription purposes.

Kindest regards.

Questions

1. Instruction approaches employed in teaching research methodology

Q1: Do you adopt specific teaching methods/instructions to teach research methodology? If yes, what is it?

Q2: Have you thought of using video lessons to support students' learning? If yes, in what way do you find it useful?

Q3: Are you familiar with the concept of "Inverted classroom" or "flipped learning"?
Yes/No

Q4: Do you think that the concept of flipped learning is suitable for teaching Research methodology? Yes/No. Could you please explain?

2. The significance of feedback and practice on learning research methodology

Q1: Considering the course of RM a practical one in terms of its objectives, to what extent do EFL students have to practice during the course? And what are the main targeted aspects?

Q2: Do you struggle with the feedback provision to every student inside the class?

Q3: If yes, how do you cope with that?

3. Challenges pertaining to teaching research methodology

Q1: Tell me about the challenges that teachers face in teaching research methodology?

Q2: Does the university provide the required facilities to teach research methodology?

Q3: What would you recommend for the betterment of teaching research methodology in the EFL context?

المخلص

تستكشف هذه الدراسة مفهوم التعلم المعكوس وتأثيره على تدريس منهجية البحث العلمي لطلاب الماستر في تخصص اللغة الإنجليزية في جامعة محمد خضر في بسكرة. وبشكل أكثر دقة، فإنها تحقق في تأثير نظرية التعلم المعكوس على مهارات الطلاب البحثية. تهدف هذه الدراسة إلى تقديم نظرة عامة على مفهوم التعلم المنقلب وتوضيح تطبيقاته في سياق تدريس منهجية البحث العلمي و هذا بهدف تحسين موقف الطلاب تجاه هذه الوحدة من خلال تحقيق أقصى قدر ممكن من التمرين داخل الفصل ودفع استقلالية الطلاب. و بهذا الصدد افترضنا أن دمج نظرية التعلم المعكوس من شأنه أن يحسن نتائج فصول منهجية البحث. ولتحقيق الأهداف المقررة لهذا البحث، اعتمد الباحث نهجا وصفيا يتألف من أداتين لجمع البيانات التي تمثلت في استبيان للطلاب، استهدف طلاب السنة الثانية ماستر لشعبة اللغة الإنجليزية من خلال تقنية أخذ عينات عشوائية. وبالإضافة إلى ذلك، أجريت مقابلة شبه منظمة مع مدرسين إثنين من نفس الجامعة. وأجابت النتائج التي تم جمعها من خلال الأدوات المذكورة أعلاه على جميع أسئلة البحث ودعمت فرضية البحث. ومن هذا المنطلق تأكدت فرضية البحث. وقد إتفق كل من الأساتذة والطلاب على حد سواء بأن دمج التعلم المنقلب في فصول منهجية البحث يمكن أن يسفر عن نتائج أفضل في سياق تدريس المنهجية العلمية من خلال التركيز على الجانب التطبيقي لهذه المادة داخل الفصول الدراسية. واختتمنا بدعوة إلى إجراء دراسة تجريبية مماثلة في نفس السياق.

الكلمات المفتاحية: منهجية البحث العلمي، التعلم المعكوس، المنهجية، الأقسام المعكوسة.

Résumé

Cette étude étudie le concept de l'apprentissage inversé et son impact sur l'enseignement de la méthodologie de recherche pour les étudiants en master deux d'anglais à l'Université Mohamed Khider de Biskra. Plus précisément, elle étudie l'impact de la théorie du l'apprentissage inversé sur les compétences de recherche des étudiants. Cette étude vise à fournir un aperçu du concept d'apprentissage inversé et à illustrer son application dans le contexte de l'enseignement de la méthodologie de recherche afin d'améliorer l'attitude des étudiants envers ce module en optimisant la pratique en classe et en favorisant l'autonomie des apprenants. Nous avons émis l'hypothèse que l'intégration de l'apprentissage flippé améliorerait les résultats des cours de méthodologie de la recherche. Pour atteindre les objectifs prévus de la présente enquête, le chercheur a adopté une approche descriptive, qui comprend deux outils de collecte de données : un questionnaire pour les étudiants, qui ciblait les apprenants de Master 2 EFL (n=33) par le biais d'une technique d'échantillonnage aléatoire. En outre, un entretien semi-structuré a été mené avec deux enseignants du même département. Les résultats recueillis à l'aide des instruments susmentionnés ont permis de répondre à toutes les questions de recherche et de soutenir l'hypothèse de recherche. Par conséquent, l'hypothèse de recherche a été confirmée. Tant les enseignants que les étudiants ont reconnu que l'intégration de l'apprentissage inversé dans les cours de méthodologie de recherche pourrait permettre une meilleure compréhension du concept appris en déplaçant l'accent de la théorie vers la pratique dans la salle de classe. Nous avons conclu par un appel à une étude expérimentale équivalente.

Mots-clés: Méthodologie de recherche, EFL, Apprentissage inversé, ELT, Méthodologie, classe inversées.